Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements	)	WC Docket No. 02-112
	)	
2000 Biennial Regulatory Review Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules	)	CC Docket No. 00-175

COMMENTS OF SBC COMMUNICATIONS INC.

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EXECUTIVE SUMMARY

The Commission should not impose dominant carrier regulation (or any other regulation not imposed on other long distance carriers) on Bell Operating Company (BOC) or independent local exchange carrier long distance services after the sunset of Section 272 structural separation and related requirements. The absence of those requirements will not give the BOCs or independent LECs the power to raise prices for long distance services. Indeed, the imposition of dominant carrier regulation is likely to harm consumers and the public interest, not benefit them.

As the Commission has recognized, dominant carrier regulation should be imposed only when the benefits obtained clearly outweigh the harms such regulation creates. Here, the benefits would be minimal, if they exist at all. Dominant carrier regulation is generally intended to keep a carrier's rates from becoming too high. That concern is not present here because it is clear that BOCs (and independent LECs) do not have, and will not have, market power in the provision of long distance services. Indeed, there can be no disputing the fact that the long distance business is far more competitive today than it was when the Commission granted AT&T non-dominant status in 1995. Then, AT&T's share was three times that of its closest competitor. Today, the BOCs (either viewed together or separately) do not even have the largest long distance share; AT&T remains larger. There are numerous other competitors, including many that have the competitive advantage of having their own nation-wide facilities-based networks.

Both mass market and larger business customers are price-sensitive and are exercising their rights to choose among the many long distance options available to them.

In addition, all wireline long distance carriers (including BOC long distance) face significant competition from new actors with different attributes and approaches, including wireless, Voice over Internet Protocol ("VoIP"), and cable. The market is plainly too dynamic for BOCs to attain the ability to charge and sustain supracompetitive prices.

Nor is dominant carrier regulation appropriate because of the theoretical possibility that a BOC (or independent LEC) might seek to use its local exchange network to harm its long distance competitors by engaging in non-price or price discrimination, cost shifting, or predatory pricing. Even after the sunset of structural separation, many statutory and regulatory provisions will continue to prohibit and police against such conduct, and any attempt to engage in such conduct would easily be detectable by both regulators and our competitors. Equally important, the Commission has recognized that dominant carrier regulation on long distance operations is not an effective tool to address concerns that BOCs (or independent LECs) might use their local exchange facilities to harm their long distance rivals. That finding is true today and will be true after the sunset of structural separation.

While dominant carrier regulation of BOC and independent LEC long distance operation would offer little, if any, benefit, it would impose significant social costs. The Commission has recognized these costs and noted that they include, among other things, diminished incentive to reduce prices, and to innovate and an increased risk of tacit collusion.

Given the negligible benefits of dominant carrier regulation of BOCs and independent LECs' long distance services, and the significant social costs of such regulation, the Commission should rule that BOCs and independent LECs are non-dominant in their provision of interLATA intestate services, with or without structural separation.

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I. Introduction

The major issue presented in the Further Notice of Proposed Rulemaking ("FNPRM") is really a simple one: Will the statutory sunset of Section 272 structural separation and related requirements somehow give the Bell Operating Companies ("BOCs") (and independent local exchange carriers) the market power to raise prices for long distance services, such that imposition of "dominant carrier" rate regulation is warranted. SBC Communications Inc. ("SBC") respectfully submits that the answer to that question is a resounding "no." Indeed, the imposition of new dominant carrier regulation is likely to harm consumers and the public interest, not benefit them.

The imposition of dominant carrier or other regulatory constraints on BOC in-region long distance pricing (or on the long distance services of independent local exchange carriers ("ILECs") is unnecessary and unwise for several reasons. First, as the Commission has recognized, such regulation should be imposed only when the benefits obtained clearly outweigh the harms such regulation creates. Here, the benefits are minimal, if they exist at all. Dominant carrier regulation is generally intended to keep a carrier's rates from becoming too high. That concern is not present here. Moreover, the Commission has recognized that dominant carrier regulation is not an effective tool to address concerns that BOCs (or ILECs) might use their local exchange facilities to discriminate against rival long distance carriers, raise their costs, engage in predatory pricing, or otherwise act in an anticompetitive manner. That finding remains true today and will remain true after the sunset of structural separation.

Moreover, the imposition of dominant carrier regulation would be affirmatively harmful. The Commission has recognized that a requirement to file tariffs not only delays competitive responses, but can be a mechanism for coordinated interaction. Dominant carrier regulation of BOC or ILEC long distance offerings would raise the same serious risks of consumer harm.

Second, regardless of the specific parameters of the relevant product and geographic markets in which long distance services are offered, BOCs and ILECs are simply not "dominant." The inarguable fact is that telecommunications technology is rapidly changing and new services are being offered by a variety of actors with different attributes and approaches, including wireless, Voice over

Internet Protocol ("VoIP"), and cable. The market is plainly too dynamic for BOCs to attain the ability to charge and sustain supracompetitive prices.

Indeed, even combined, BOC actual and projected long distance revenues are a far smaller percentage than AT&T alone had when it was declared non-dominant. There are numerous competitors, including many who have their own nation-wide facilities-based networks, and there is a glut of network capacity. Both mass market and larger business customers are price-sensitive and are exercising their rights to choose among the many long distance options available to them. Given the dynamism of the marketplace and the multiplicity of options available to all customers, BOCs and ILECs simply cannot profitably increase long distance prices. This reason alone is sufficient to reject dominant carrier regulation.

Third, after structural separation requirements sunset, numerous other statutory and regulatory safeguards remain to prevent the ills that BOC competitors allege will occur. Requirements that BOCs not engage in price or non-price discrimination, provide comprehensive reporting information on the quality of their exchange access service, and impute access charges to themselves would continue to apply. And, of course, antitrust remedies remain available to a party that can prove a case. Given those legal constraints, plus the availability of other sources for local exchange and exchange access services, and the sophistication of their competitors, it is simply not possible for the BOCs to increase long distance prices, raise rivals' costs, or engage in undetected discrimination.

II. Dominant Carrier Regulation Should Be Imposed Only In Limited Circumstances That Are Not Present Here.

As the Commission has recognized, dominant carrier rate regulation is designed specifically to prevent a carrier from raising its prices by restricting its output.[1] It is not designed, and is "at best a clumsy tool," to address concerns that BOCs can use their local exchange network to raise rivals' costs or otherwise impede the competitiveness of the long distance marketplace.[2] Moreover, as the Commission has noted "regulations associated with dominant carrier classification can … have undesirable effects on competition."[3] Therefore, dominant carrier regulation should be imposed only in limited circumstances, which are not present here.[4]

A. The Costs of Dominant Carrier Regulation Can Outweigh the Benefits.

Dominant carrier rate regulation generally requires carriers to file tariffs in advance of their effective date, and either to provide cost justification for tariff rates

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1 *Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area and Policy Rules Concerning the Interstate, Interexchange Marketplace*, CC Docket Nos. 96-149 & 96-61, Second Report and Order in CC Docket 96-149 and Third Report and Order in CC Docket No. 96-61, 12 FCC Rcd 15,756, 15,804, ¶ 85 (1997) (*LEC Classification Order*), *recon.*, Second Order on Reconsideration and Memorandum Opinion and Order, 14 FCC Rcd 10,771 (1999) (*Second Reconsideration Order*).

2 *Id.*, ¶ 85, 91.

3 *Id.*, ¶ 90.

or to demonstrate that those rates are below capped levels. It also heightens restrictions on the ability of a carrier to stop providing a service (so-called 214 restrictions). The purpose of these requirements is to prevent carriers who are truly dominant from charging excessive rates or stranding consumers.[5]

The Commission has recognized that "Dominant carrier regulation should be imposed . . . only if the benefits of such regulation outweigh the burdens that would be imposed on competition, service providers, and the Commission."[6] Indeed, the harms that arise from the application of such rate regulation are significant. The Commission has found it can stifle innovation and needlessly increase the costs of providing service. Specifically, the Commission has determined that the advance tariff filing requirements, which lie at the heart of dominant carrier regulation, impede vigorous competition by: (a) removing incentives for competitive price discounting; (b) reducing or eliminating carriers' ability to make rapid, efficient responses to changes in demand and cost; (c) burdening carriers attempts to make

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(…continued)

4 This point is further supported by the Declaration of Dennis W. Carlton, Hal Sider and Alan Shampine, attached hereto, ¶¶ 74-78 (Carlton/Sider/Shampine).

5 *See LEC Classification* Order ¶ 85; FNPRM ¶ 38.

6 *See LEC Classification Order* ¶ 87.

new offerings; and (d) preventing consumers from seeking out or obtaining service arrangements specifically tailored to their needs.[7]

Dominant carrier regulation impedes price competition and product innovation because the dominant carrier must give advance notice of price changes and new service offerings to its competitors. This notice allows competitors to react with similar plans and products of their own which can be available immediately, thereby decreasing the dominant carriers' economic incentive to lower Prices, offer innovative rate plan and roll out new services. The Commission has recognized that tariff filing requirements "reduce incentives … to initiate price reductions," and invite competitors to "use the regulatory process to delay, and consequently, ultimately thwart [dominant carrier] strategies."[8] The Commission also has recognized that dominant carrier regulation can be harmful by providing a mechanism for tacit price coordination.[9]

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7 *See Policy and Rules Concerning the Interstate, Interexchange Marketplace*, 11 FCC Rcd. 20,730, ¶ 53 (1996).

8 *See Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier*, 11 FCC Rcd 3271, ¶ 27 (1995) ("*AT&T Non-Dominance Order*").

9 *See Policy and Rules Concerning the Interstate, Interexchange Marketplace*, *supra,* ¶ 23 ("we find that tariff filings by nondominant interexchange carriers for interstate, domestic, interexchange services may facilitate, rather than deter, price coordination, because under a tariffing regime, all rate and service information is collected in one, central location").

B. Dominant Carrier Regulation Is Not Designed to Cure the Problems Our Competitors Foresee Resulting From the Elimination of Structural Separation.

Dominant carrier regulation is appropriate only if it is necessary to prevent a carrier with market power from increasing its prices above competitive levels and sustaining them at that level through restrictions in its own output.[10] The Commission previously found that BOC affiliates have no incentive to restrict their output of long distance services,[11] and there is no logical reason why the elimination of structural separation requirements would create such an incentive. Indeed, the FNPRM (at ¶ 38) acknowledges these points.

Notwithstanding these Commission findings, AT&T and others have expressed concerns that, without structural separation, BOCs will (a) use control of local exchange facilities to discriminate against long distance competitors; and (b) engage in cost shifting that would increase competitors' costs and permit the BOCs to engage in a price squeeze or other predatory conduct.[12] As a result, the Commission has asked for comment on whether dominant carrier regulation will address these concerns.[13]

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10 *See Second Reconsideration Order*, ¶ 8.

11 *See* FNPRM, ¶ 27 (citing *LEC Classification Order*).

12 *See* Petition of AT&T, *In the Matter of Extension Of Section 272 Obligations Of Southwestern Bell Telephone Co. In The State Of Texas* at 5-6, WC Docket No. 02-112 (2003).

13 *See* FNPRM, ¶¶ 39-40.

The answer to this question is unmistakably clear. As the Commission has already stated, dominant carrier regulation would not address these alleged problems, even if they did exist.

> ***Dominant carrier regulation does not sufficiently help to prevent other types of non-competitive activity, such as cost misallocation, access discrimination, and attempts to engage in a price squeeze, that a BOC can engage in by virtue of its control of bottleneck activities."***[14]

The only issue presented in this FNPRM is whether dominant carrier regulation (or some other, unspecified form of regulation) should be imposed on BOC and ILEC long distance offerings once structural separation requirements sunset. SBC respectfully submits that the Commission finding stated above provides a definitive response. The answer is no.[15]

III. BOCs and Independent LECs Lack Market Power in the Provision of Long Distance Services

As the Commission has recognized in the FNPRM, the marketplace in which interstate long distance services are sold has changed significantly from 1996.[16] Traditional wireline long distance services are increasingly facing competition from wireless, VoIP, cable telephony, and other Internet-based services (such as e-mail

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14 *Second Reconsideration Order*, ¶ 8 (emphasis added).

15 That the Commission's conclusion is correct from an economist's perspective is also clear. *See* Carlton/Sider/Shampine, ¶¶ 45-71.

16 *See* FNPRM, ¶ 8.

and instant messaging).[17] And wireline long distance services themselves are being sold in new and different ways. There is every reason to expect the pace of these procompetitive developments to continue or even accelerate.[18]

The velocity of change in this marketplace makes precise market definition a complex task, but also one that is less critical because the exercise of market power is notoriously difficult in such dynamic markets.[19] Indeed, as a pre-eminent antitrust treatise states, in the absence of a statutory requirement to define a specific market (*e.g.*, in a monopolization case under section 2 of the Sherman Act), the definition of a relevant market is not, by itself, necessary. "Finding the relevant market and its structure is not a goal in itself, but a surrogate for market power."[20] Thus, the Commission need not dwell on the market definition issue, as it is clear that the marketplace is very competitive. BOCs and ILECs do not have market power over pricing in the sale of long distance services, and there is no reason to believe the elimination of structural separation would change that fact.

A. The Commission's Analytical Approach to Determining Whether a Carrier Should Be Treated As Dominant

The Commission defines a dominant carrier as a "carrier that possesses market power" and a non-dominant carrier as "a carrier not found to be dominant

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17 *See generally* Carlton/Sider/Shampine, ¶¶ 28-34.

18 *Id.*, ¶¶ 41-44.

19 *Id.*, ¶ 19.

20 P. Areeda & H. Hovenkamp, IIA Antitrust Law § 531(a) (2002).

(that is, one that does not possess market power)." 47 C.F.R. §§ 61.3(q), 61(y). Therefore, the Commission's approach to determining whether a carrier should be treated as dominant with respect to a given service typically begins with defining the relevant product and geographic markets and then assessing whether the carrier has market power in the relevant market.[21] Market power for these purposes is defined as "the ability unilaterally to raise and maintain price above competitive levels without driving away so many customers as to make the increase unprofitable . . . ."[22]

1. Defining the Relevant Market

Since the *LEC Classification Order* in 1996, the Commission has defined geographic and product markets primarily with reference to demand cross-elasticities. Specifically, citing the DOJ/FTC *Merger Guidelines,* it has held that two services are deemed to be in the same product market if a small, but non-transitory price increase by a monopoly provider of one of these services would cause enough buyers to shift their purchases to the second service as to render the increase unprofitable. Two geographic areas are in the same geographic market if a small, but non-transitory price increase for a service in one area would cause customers to switch to the same service offered at a lower price in the other area.

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21 *See* FNPRM, ¶ 8.

22 *Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations*, Fourth Report and Order, 95 FCC 2d 554 (1983); *LEC Classification Order*, ¶ 85; *Second Reconsideration Order*, ¶ 8.

At the same time, the Commission has recognized that it is both administratively impracticable and unnecessary to identify and analyze every single product and geographic market. Accordingly, the Commission will conduct a separate market power analysis for two different products or geographic areas only if there is credible evidence that there is or could be a lack of competitive performance with respect to one of those products or areas.[23]

As to interexchange services, the Commission has held that, if the facilities of most competitors are capable of providing a group of services, those services may be considered to be in the same product market.[24] For that reason, it has treated all domestic interstate interexchange services as part of the same product market, notwithstanding the fact that existing competitive conditions may be somewhat different with respect to different long distance products.[25] The Commission has also found that long distance customers in all parts of the nation generally face similar competitive conditions, in part because of geographic rate averaging and rate integration requirements.[26] Thus, even though long distance services, strictly speaking, are a series of separate point-to-point products, they can be analyzed as

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[23] *E.g., LEC Classification Order*, ¶ 50.

[24] *Application of WorldCom, Inc. and MCI Communications Corp. for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.,* 13 FCC Rcd 18,025, ¶ 27 (1998) (*WorldCom/MCI*).

[25] *AT&T Non-Dominance Order,* ¶ 20-21.

[26] *See WorldCom/MCI*, ¶ 30.

being a single geographic market, absent a demonstration that competitive conditions are different in some geographic area.[27]

In the *LEC Classification Order*, the Commission similarly viewed the product market as limited to traditional wireline domestic interstate interexchange services. For example, it considered only other wireline interexchange carriers when assessing supply and demand substitutability.[28] It defined the relevant geographic market for purposes of determining whether non-dominant regulation is appropriate for LEC long distance affiliates as in-region only.[29]

In the years since the *LEC Classification Order,* however, wireless and Internet services increasingly have become substitutes for traditional wireline long distance services. This development raises the question of whether the definition of the long distance market should be broadened. A comprehensive analysis of this question would require access to data that no single market participant can obtain. They would include (i) price and usage data from major wireline, wireless, cable television, and VoIP providers of long distance services, e-mail service providers, and instant message service providers, covering several months or quarters, for the numerous pricing plans offered by each; (ii) cost data from the same set of providers; (iii) data on capacity in the different industry segments and the ability of different

[27] *LEC Classification Order*, ¶ 97

[28] *See id.*

[29] *See id.*, ¶¶ 40-51; FNPRM, ¶10.

providers to expand output; and (iv) marketing plans and studies of providers in different industry segments. This information would be necessary for mass market and larger business customers; for wholesale and retail services; and for customers in different parts of the country. Moreover, to be useful on a forward-looking basis, market definition must refract historical or current data through the prism of a dynamic marketplace.[30]

The FNPRM recognizes the complexity of the inquiry. It asks a series of empirical questions. Does the relevant product market consist of wireline interstate interexchange service only or does it also include wireless interstate services and/or VoIP telephony? Does the market include all calls, regardless of technology, in which the origination and termination points are in different exchanges? How can one quantify the amount of wireless interexchange traffic? If long distance service is sold in combination with other services (such as wireless or local exchange service), does the market include those other services as well? Do wholesale and retail services have different supply and demand characteristics? Similarly, do mass market and enterprise customers have different supply and demand characteristics?[31]

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30 *See LEC Classification Order*, ¶ 42 (marketplace dynamics must be taken into consideration when defining a market). Indeed, the Department of Justice cautioned the Commission against precisely defining a relevant market unless necessary because changes in the industry may require different definitions in the future. *See id.,* ¶ 23.

31 *See* FNPRM, ¶¶ 10-12, 24-26.

In addition to the problem of compiling these data, the time and effort needed to perform the required analyses would be immense. Moreover, the results of the analyses might be quickly overtaken by future market developments.

It is clear, however, that the relevant product market is at least as broad as it was when the *LEC Classification Order* was adopted in 1996, and possibly broader. Moreover, irrespective of whether the Commission formally redefines the market to include these alternatives, it is evident that the market is vigorously competitive – far more so even than it was in 1995 when the Commission declared AT&T non-dominant in domestic interstate interexchange services.

Accordingly, for the purposes of analysis, we assume, consistent with the Commission's prior holdings, that there is no need to analyze different interexchange services as being in different product markets.[32] We also assume, for the purpose of analysis, that the relevant geographic market in which to analyze BOC or independent LEC market power in long distance services is in-region only.[33]

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[32] *LEC Classification Order*, ¶ 50 ("We are aware of no evidence . . . that suggests that there is a particular interexchange service or group of services that will be provided by BOC interLATA affiliates or independent LECs with respect to which there is or could be a lack of competitive performance. . . . Therefore, in assessing the market power of BOC interLATA affiliates and independent LECs in the provision of domestic, interstate long distance services, we find it is appropriate at this time to evaluate their market power with respect to all interstate, domestic, long distance services, rather than conducting a separate analysis of each individual service."). *See also id.*, ¶¶ 42-43.

[33] This narrower geographic market definition would overstate a BOC's market power if one viewed the relevant geographic market as nationwide in scope,

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The Commission has elsewhere analyzed mass market customers (residential consumers and smaller business) and larger business separately,[34] and we will discuss both.

2. Assessing Market Power

The Commission has generally looked at four factors in determining whether a carrier has market power in the provision of a service: (1) market share; (2) supply elasticity; (3) demand elasticity; and (4) disparities in size, resources, financial strength, and cost structures among the market participants. With respect to the fourth factor, the Commission has repeatedly held that the focus of its inquiry is not on whether the firm at issue has certain advantages in the relevant market, but "whether any such advantages are so great to preclude the effective functioning of the market."[35]

In the *LEC Classification Order*, the Commission added a fifth factor to the analysis of BOC long distance offerings: whether, "upon entry or shortly thereafter," the BOC affiliates could acquire market power by leveraging any market power of the operating company.[36] In this proceeding, we assume the relevant inquiry

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as the Commission has done elsewhere. *See WorldCom/MCI,* ¶ 31*; AT&T Non-Dominance Order,* ¶ *22.*

34 *WorldCom/MCI*, ¶¶ 24-29.

35 *AT&T Non-Dominance Order*, ¶ 73.

36 *LEC Classification Order*, ¶ 206.

would be whether sunset of the structural separation requirements would permit such leveraging.

B. Regardless of the Specific Market Definition Chosen, The BOCs Do Not Have, And Are Unlikely To Obtain, Market Power in the Long Distance Market.

It is not necessary in this proceeding to answer the market definition question definitively if it can be determined that the absence of structural separation will not create market power.[37] Here, the same factors that make market definition a complex task make it impossible for BOCs "unilaterally to raise and maintain price above competitive levels without driving away so many customers as to make the increase unprofitable."[38] Thus, BOCs will not have market power in the provision of long distance services however that market is defined.

This proceeding, of course, is not the first one in which the Commission has sought to determine whether a carrier has market power in the long distance market. In those prior proceedings and in other cases, the Commission, and even our competitors, repeatedly have found the long distance marketplace to be competitive. When AT&T asked this Commission to classify it as a non-dominant carrier in 1993, its expert, Professor Michael Porter of the Harvard Business School,

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37 Carlton/Sider/Shampine, ¶ 15.

38 *See* n. 22, above.

told the Commission not only that the long distance marketplace was competitive then, but also that its competitiveness is "self-sustaining" over time:

> ***The intense competitiveness of the interLATA interexchange industry over most of the past decade is the direct result of an underlying structure. This structure not only makes its competitiveness self-sustaining but suggests that it is likely to continue to increase over time.*** An industry's competitiveness is determined by the intensity and interaction of five forces. Direct rivalry among competitors is only one of those sources. Low barriers to entry allow new firms to enter an industry and stimulate incumbents to respond vigorously to avoid loss of share. The development of substitute products encourages firms to lower prices and/or improve product offerings. Powerful buyers create the same effect by playing competitors off of each other. And powerful suppliers force firms to bid vigorously for inputs they control.
>
> [T]he most important factors determining the interexchange industry's self-sustaining competition are the factors accounting for high degrees of rivalry and buyer power, along with serious threats of new entry and, in some portions of the market, a significant threat of substitutes.[39]

AT&T thus represented to the Commission that: "[t]he interexchange market is 'highly competitive,' and that this competition 'cuts across' all services and customers."[40]

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39 Michael E. Porter, "Competition in the Long Distance Telecommunications Market" at 9, submitted with Motion for Reclassification of AT&T as a Nondominant Carrier, *In the Matter of Policy and Rules Concerning Rates for Competitive Common Carrier Servs. And Facilities Authorizations Therefore*, CC Docket No. 79-252 (filed September 22, 1993) (emphasis added).

40 Motion for Reclassification of AT&T as a Nondominant Carrier, *In the Matter of Policy and Rules Concerning Rates for Competitive Common Carrier Servs. And Facilities Authorizations Therefore*, CC Docket No. 79-252, at 7 (filed September 22, 1993).

More recently, in granting the WorldCom – MCI transfer application, the Commission found that barriers to entry were low, particularly because of the abundant supply of long-haul capacity and the number of different firms possessing that capacity.[41]

Current marketplace developments only add to the competitiveness of the marketplace. Indeed, the forces Professor Porter identified are far more prevalent today then they were ten years ago. Particularly since BOC long distance entry, rivalry among competitors is greater; major buyers have more choices and therefore are able to extract better offers; entry barriers are lower and entrants are using new as well as traditional technologies; and product substitution is real and increasing.[42]

Traditional long distance service is subject to competition from many sources that were not significant competitive factors in the past. Indeed, analysts estimate that growth of wireless services and the Internet are having a far greater effect on the amount of traffic carried by incumbent long distance carriers than is BOC entry.[43]

The carriers themselves agree. AT&T, the largest interexchange carrier by any measure, stated in its most recent Annual Report to investors that "consumer long distance voice usage is declining <u>as a result of substitution of wireless services,</u>

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41 *WorldCom/MCI*, ¶¶ 36, 51.

42 *See* Carlton/Sider/Shampine, ¶¶ 18-22, 28-40.

43 Carlton/Sider/Shampine, ¶ 34.

Internet access and e-mail/instant messaging services."[44] With respect to the larger business segment, AT&T said, "prices for long distance minutes and other basic communications services have declined as a result of increased competitive pressures, governmental deregulation, introduction of more efficient networks and advanced technologies, and product substitution."[45] WorldCom stated in its recent annual report that "wireless carriers increasingly compete for consumers through nationwide or regional 'bucket of minutes plans.' Indeed, wireless competition and the availability of inexpensive long-haul transport has already significantly reduced consumer long distance pricing . . .." [46]

The Commission's recent statistical report on long distance dramatically demonstrates that wireline long distance service providers are subject to competitive pressures from other forms of communication. The average number of toll call minutes per month on residential wireline bills dropped by almost forty percent in five years, from 147 in 1997 to 90 in 2002.[47] There is no reason to suspect people are communicating less frequently now than they were five years ago. The decline in long distance traffic can be explained only by the use of other means of communication in lieu of wireline communications. Indeed, the Commission itself

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44 AT&T, SEC Form 10-K, at 6 (for fiscal year ended Dec. 31, 2002).

45 *Id.*

46 WorldCom SEC Form 10-K, at 14 (for the fiscal year ended Dec. 31, 2002).

47 FCC, Statistics of the Long Distance Telecommunications Industry, Table 20 (May 2003). *See also* Carlton/Sider/Shampine, ¶ 33.

has interpreted the data in this manner, reporting to Congress that "wireless plans are substituting for traditional wireline long distance . . . ."[48]

Indeed, competition from new technologies is expected to increase. As AT&T stated, e-mail is increasingly being used to communicate. The number of adults with access to e-mail and instant messaging increased from 17.5 million in 1995 (when AT&T was found non-dominant) to 137 million in 2002, and the number of e-mail messages is estimated to exceed 13 billion per day.[49] Moreover, just last week, Apple and Microsoft announced tests of new software that would add both audio and video to instant messaging.[50]

In addition to new competition from other technologies, the long distance marketplace is seeing new competition from the BOCs and other local exchange companies and innovative competitive offerings. Traditional long distance services are being marketed in a multiplicity of ways that were not commonplace in 1996. InterLATA and intraLATA services may be marketed together more easily because all intraLATA toll markets are now open to unrestricted competition and dialing

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48 *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Radio Services*, Seventh Report, 17 FCC Rcd 12,985, 13,017-18 (2002) (*Seventh Annual Wireless Report*). *See also*, Testimony of Chairman Powell before the Senate Committee on Commerce, Science and Transportation, at 5 (Jan. 14, 2003).

49 Carlton/Sider/Shampine, ¶ 32.

50 *Id.*

parity has been achieved.[51] Many carriers are offering flat rate plans with unlimited long distance calling.[52] Others are offering long distance service in "bucket plans" in which consumers incur no marginal cost for any call until the "bucket" is empty.[53] Still others are bundling wireline and wireless long distance services in a single bundle.[54] And others are bundling various wireline services, including video services, together in a package. Cox Communications, for example, offers a bundle called "Cox Combo" that includes digital video service, high-speed Internet access service, and local and long distance telephone service.[55]

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[51] IntraLATA dialing parity must be implemented no later than the date a BOC begins providing interLATA services in a given state. *See* 47 U.S.C. §§ 253, 271(e)(2)(A). Thus, for the purposes of this proceeding (which assumes that a BOC is offering long distance service in a given state), intraLATA dialing parity will have been implemented.

[52] *See* MCI Neighborhood Plan (unlimited long distance and local calls packaged with other features); MCI Nationwide Unlimited Evenings (unlimited long distance and local calls after 7:00 p.m.); AT&T Unlimited Plan (unlimited long distance and local calls to an AT&T number, 7 cents per minute to calls to others); BellSouth Unlimited Plan; SBC National Connections.

[53] *See* Sprint 1000 AnyTime Plan (1000 minutes of anytime long distance for $40 a month, 10 cents per minute for calls over 1000); Sprint 500 AnyTime Plan (500 minutes of anytime long distance calls for $25 a month, 10 cents per minute for calls over 500); Verizon Talk Time 500 Plan (500 long distance minutes for $30, additional calls are 6 cents per minute).

[54] *See* Sprint 50 at Home Plan (existing PCS Wireless customers can receive up to 50 free minutes of residential long distance service, additional calls are 7 cents per minute); Sprint 50 at Home with International Plus (existing PCS Wireless customers can receive up to 50 free minutes of residential long distance service and savings on international calls).

[55] *See* http://www.cox.com/sandiego/coxcombo.asp (visited June 29, 2003). The MCI Neighborhood Plan (bundling long distance, local calls, and unlimited DSL internet access) and Sprint Sense AnyTime (ten cents per minute rates

(continued…)

Not surprisingly, long distance prices, both in the aggregate and net of access charges, are declining. FCC data indicate that average revenue per minute for interstate long distance calls carried by wireline carriers fell from 11.2 cents in 1999 to 8.3 cents in 2001. Net of access charges, average revenue fell from 8.0 cents per minute in 1999 to 6.5 cents per minute in 2001.[56] And prices are likely to continue to fall. Many smaller firms are pressuring larger firms to lower their prices,[57] and the major long distance carriers' annual reports contain forecasts of a continuing decline in long distance prices.[58]

(…continued)

combined with a personal toll-free number option) are among the other bundled wireline services options.

56 Carlton/Sider/Shampine, ¶ 35, Figure 5.

57 *E.g.*, Press Release, "Telecom Price Gouging Challenged; SBC, AT&T, MCI and Sprint Challenged by Calling Planet to Match 2.9 Cent Long Distance Rate" (May 21, 2003) ("Calling Planet announced today that they are 'Setting the Pace for Long Distance Rates,' in a direct challenge to Big Telecom with the launch of their 2.9 (cents) long distance calling plan for residential and business customers nationwide. 'The time has come for Big Telecom to quit gouging the Little Guy. Quality long distance service can be delivered to the consumer at 2.9(cents) a minute, and it is time for companies like SBC, AT&T, MCI and Sprint to lower their rates and give consumers the break they deserve,' said Todd Regan, Director of Operations for Calling Planet.")

58 *See* AT&T 2002 SEC Form 10-K, at 15 (" We expect there to be a continued decline in the voice long distance industry. Historically, prices for voice communications have fallen because of competition, the introduction of more efficient networks and advanced technology, product substitution, excess capacity and deregulation. AT&T expects these trends to continue, and AT&T may need to continue to reduce its prices in the future."); Sprint 2002 SEC Form 10-K, at 14 ("Increased competition has forced lower prices for long distance services. The significant increase in capacity resulting from new networks may drive prices down further.").

Against this back drop we address below the four factors the Commission traditionally assesses in making market power determinations. For the sake of analysis, we will focus on two product markets, one narrow and one broad: (1) the traditional definition of wireline domestic, interstate interexchange service; and (2) communications between two points in different exchange areas regardless of technology. (This latter market definition would be consistent with the Commission's definition of relevant markets in the Comsat non-dominance proceeding in which it found satellite services and transoceanic cable services compete in a switched voice services market notwithstanding the different technologies employed.[59]) Under either of these definitions, a review of the factors the Commission traditionally considers reveals that the BOCs do not have, and are not likely to obtain, market power.[60]

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59 *Comsat Corp.: Petition Pursuant to Section 10(c) of the Communications Act of 1934, as amended, for Forbearance from Dominant Carrier Regulation and for Reclassification as a Non-Dominant Carier*, 13 FCC Rcd 12,083, ¶¶32, 56, 76 (1998) (intermodal competition clearly present in this service market).

60 As discussed above, product markets are defined by identifying goods or services customers find substitutable or competitive. The fact that some carriers are now selling long distance services in bundles with other non-competing services (such as local exchange service or video services) does not mean that the bundled services should be considered to be within the same product market. The use of a so-called "cluster market" containing nonsubstitutable goods is not appropriate unless a single firm "has the requisite degree of market power over each of the goods in the cluster." IIA P. Areeda & H. Hovenkamp, Antitrust Law § 565c, p. 332 (2002).

1. Market Shares

BOCs do not have a dominant share in long distance services. Indeed, BOCs do not even have the largest share. The Commission's recent report with long distance industry statistics shows that AT&T continues to have the largest shares, both nationally and within each part of the country, even among residential consumers, where BOC presence tends to be bigger. For example, according to the recent FCC report, SBC's share of minutes in the Southwest region in 2002 was 19.9%, while AT&T's was 24.0%.[61]

The Herfindahl-Hirshman Index ("HHI"), often used by both federal antitrust agencies and the FCC to assess relative concentration, also shows an increasingly competitive marketplace. The HHI declined from 2000 to 2002 by over 30%, from about 1838 to about 1224.[62]

2000 Southwest Region		
Company	**Shares**	**HHI**
AT&T	37.2%	1384
MCI	18.4%	339
Sprint	10.0%	100
Verizon	3.1%	10
Qwest	1.8%	3
SBC	1.6%	3
Bell South	0.0%	0
		1838

61 FCC, Statistics of the Long Distance Industry, Table 17 (May 2003).

62 Drs. Carlton, Sider and Shampine present other HHI calculations on both a national level and a regional level, using average BOC shares. Those calculations compare concentrations in 1995 (when AT&T was found non-dominant) and forecasts for 2005. Carlton/Sider/Shampine, Table 1.

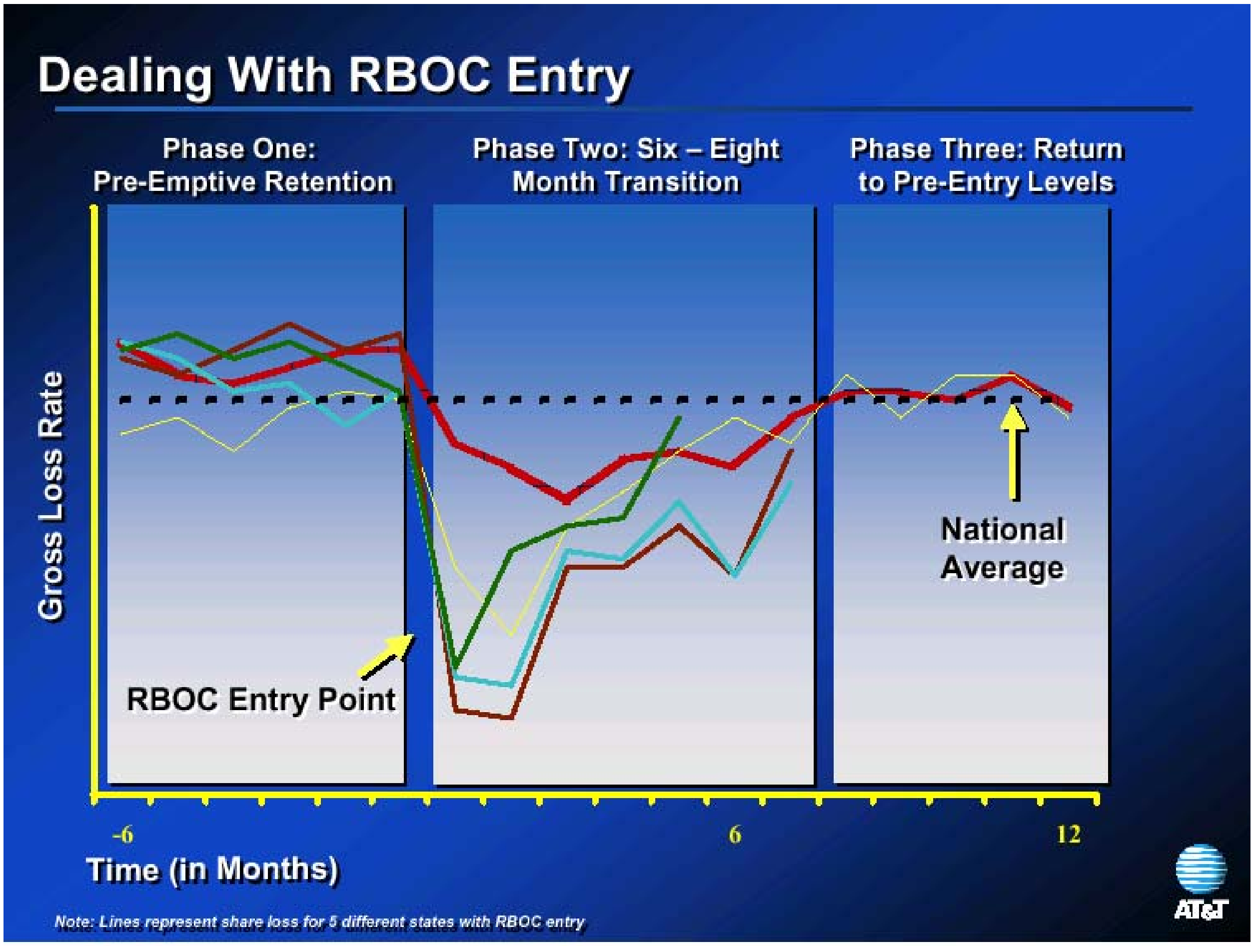
2002 Southwest Region		
Company	**Shares**	**HHI**
AT&T	24.0%	576
SBC	19.9%	396
MCI	13.3%	177
Sprint	8.1%	66
Verizon	2.7%	7
Qwest	1.5%	2
Bell South	0.0%	0
		1224

Though BOC long distance business has been increasing, no one forecasts it will ever hit the roughly 60% level that AT&T had when it was declared to be non-dominant. First, BOC long distance customers tend to make fewer long distance calls than the long distance customers of other carriers. The FCC's recent report confirms this point by showing that BOCs' share of households is larger than its share of direct dial interLATA minutes.[63] Thus, share of households overstates the true competitive significance of BOCs.

Second, BOC penetration tends to increase rather quickly and then either level off or grow much more slowly. Indeed, at a UBS Warburg conference on November 13, 2001, AT&T's Chief Executive Officer displayed the following chart

63 FCC, Statistics of the Long Distance Telecommunications Industry, Table 14. For example, SBC had a 3.8% share of households nationwide in 2002, but only a 3.1% share of interLATA direct dial minutes. The comparable numbers for Verizon in the Northeast were 9.3% (households) and 5.6% (minutes). Within the southwest region only, SBC had a 23.9% share of households, but a 19.9% share of interLATA minutes. The comparable numbers for Verizon in the Northeast were 28.4% (households) and 19.2% (minutes). *Compare id.,* Table 15 with Table 17.

and stated "so what is happening to AT&T Company and probably other companies



in the long distance business who are confronted with RBOC entry, is that we have about a 6 to 8 month gross loss impact, a recovery period, and then things go on kind of as they had been in the past."[64]

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64 Remarks of Michael Armstrong, Chairman and CEO, AT&T, UBS Warburg Sixth Annual Global Telecom Conference, Tuesday, November 13, 2001 (transcription of audio tape).

Analysts at Morgan Stanley agree that BOC share gains (and competitor's share losses) are greatest in the first 6 months after BOC entry.[65] Deutsche Bank recently forecast that BOCs will have a share (in terms of long distance subscriptions) of 16.8% in 2003, 26.9% in 2006 (after all 271 approvals are granted), and 27.6% in 2010.[66] In terms of wireline long distance revenue, Deutsche Bank forecasts that BOCs collectively will have a 18.6% share in 2005, compared to a 27.1% share for AT&T.[67] Calculating HHIs based on forecasted 2005 market shares, Drs. Carlton and Sider demonstrate that the long distance market is expected to be far more competitive in 2005 than it was in 1995 when the Commission found AT&T to be non-dominant.[68]

If the relevant product market is defined as including other means of transmitting communications between points in two different exchange areas, and BOC wireless affiliates were included, BOC shares would not increase materially, and probably would go down, even assuming the long distance business of BOC wireless affiliates should be attributed to the BOC. As set forth above, BOCs are likely to obtain a wireline long distance share of 25-30%. According to the

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65 Morgan Stanley, "Wireline Telecom Services, Trend Tracker; Nowhere to Hide," at 47 (March 3, 2003) ("we have learned from past approvals that share loss is greatest the first six months after entry").

66 Deutsche Bank Securities, "Wireline Mid-Year Review: Last Man Standing," May 27, 2003.

67 *Id.*

68 Carlton/Sider/Shampine, Table 1.

Commission's Seventh Annual Report on wireless competition, about 80% of the U.S. population live in areas served by five or more facilities-based wireless providers.[69] Analysts typically view six wireless providers as nation-wide, and there are other large regional carriers as well.[70] Thus, even in their telco regions, BOC affiliates face substantial competition, usually from at least four other facilities-based carriers. These competing wireless carriers share the long distance minutes as well. Even in the few areas where BOC wireless affiliates face competition from as few as two other facilities-based wireless carriers, the BOC affiliates are unlikely to have a share that is as large as AT&T's roughly 60% share when it was found dominant. And in the areas where 80% of the population lives, and where there are at least five wireless providers, the wireless affiliate of the in-region BOC is likely to have no more than a 30% share. Thus, the combination of the BOC's wireline long distance share and its in-region wireless affiliate's long distance share is not likely to materially increase a BOC's long distance share and is likely to decrease it. In any event, that share would clearly be less than AT&T's 60% share when it was found non-dominant.

Moreover, if other media are to be included in the relevant market, other substitutes for wireline long distance services would also be included. AT&T and others have acknowledged that the Internet is substituting for long distance calls,

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69 *Seventh Annual Wireless Report*, 5.

70 *Id.*, 13.

as more people are using e-mail and instant messaging services. [71] The inclusion of these alternatives would only further lower BOC long distance shares.

2. Supply Elasticity

As the Commission has recognized, the exercise of market power requires both the lack of meaningful competition and high entry barriers. Even if there is little competition, the absence of entry barriers is sufficient to restrain the ability of a market participant to raise prices. "An attempted exercise of market power can be constrained if rivals and new entrants have the capabilities and incentives to expand output in response to any anticompetitive practices of all or a group of incumbents."[72] There can be no doubt that there is abundant supply of long distance facilities today and entry barriers remain low.

The Commission found in 1995 that there was significant capacity for long distance services, both for mass market and larger business customers.[73] There is far more fiber optic cable in the ground today than ever before. Indeed, between 1999 and 2001, long distance carriers in the U.S. doubled their fiber capacity (from

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71 "[C]onsumer long distance voice usage is declining as a result of substitution of wireless services, Internet access and e-mail/instant messaging services. AT&T SEC Form 10-K, at 6. *See also* Carlton/Sider/Shampine at ¶¶ 28-34.

72 *WorldCom/MCI*, ¶ 51, citing *Applications of NYNEX Corp., Transferor and Bell Atlantic Corp., Transferee, for Consent to Transfer of Control of NYNEX Corp. and Its Subsidiaries*, 12 FCC Rcd 19,985, 20,049, ¶ 128, n.244 (1997).

73 *AT&T Non-Dominance Order*, ¶ 59.

18 to 36 million fiber-kilometers).[74] And, improvements in electronics allow carriers to carry far more traffic in a given optical fiber. In 1998, network technology permitted the transmission of up to 240 Gb/second. Current technology permits the transmission of up to 1.6 Tb/second, a six-fold increase.[75] Moreover, if the Commission expands the relevant market to include other technologies used to carry messages between locations in different exchange areas, the availability of supply would even be greater.

Major long distance carriers continue to cite excess network capacity as a factor placing downward pressure on long distance prices. AT&T wrote in its most recent SEC Form 10-K that "prices for long distance minutes and other basic communications services have declined as a result of competitive pressures, ***excess network capacity***, the introduction of more efficient networks and advanced technologies, product substitution, and deregulation."[76] WorldCom reported that "the availability of inexpensive long-haul transport has already significantly reduced consumer long distance pricing."[77] Sprint, too, says, "The significant increase in capacity resulting from new networks may drive prices down further."[78]

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74 Carlton/Sider/Shampine, Figure 7.

75 *Id.*, ¶ 39.

76 AT&T 2002 SEC Form 10-K, at 6 (emphasis added).

77 WorldCom 2002 SEC Form 10-K, at 14.

78 Sprint 2002 SEC Form 10-K, at 14.

Generally, with the exception of Qwest, BOCs and their affiliates do not have extensive interLATA transport facilities and use the interLATA facilities of others. SBC, for example, uses the capacity of Williams. Thus, there is nothing about the entry or share of BOCs that will decrease the supply of long distance facilities available to BOC competitors.[79]

The Commission has noted in the past that long distance facilities generally represent sunk costs. Once they are deployed, they will almost certainly remain in the marketplace even if the firm that currently owns them exits.[80] Indeed, the post-bankruptcy experience of several interexchange carriers confirms this point. WorldCom, for example, plans to emerge from bankruptcy and use its existing facilities. If it did not, it would have sold those facilities to the highest bidder and that firm would have used them to provide long distance services.[81]

If the relevant market includes other forms of long distance communication, there is an even more abundant supply of transmission capacity. Wireless providers use either their own facilities or wireline long distance facilities to transport calls between local calling areas. Thus, the large amount of capacity

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79 Because of the abundance of long interexchange capacity and the minimal ownership by BOCs of interLATA facilities, for the purposes of this proceeding, there is no need to address wholesale markets separately from retail markets. The BOCs generally do not have, and are unlikely to have, a large share in wholesale long distance services.

80 *LEC Classification Order*, ¶ 107.

81 Carlton/Sider/Shampine, ¶¶ 55-56.

available to wireline long distance competitors is also available to wireless carriers. Moreover, VoIP will further increase the supply for long distance communications. Some contend, for example, that all voice calls will be VoIP by the end of this decade.[82]

All of this confirms that supply elasticity is sufficient to assure that BOCs cannot exercise market power in long distance services.

3. Demand Elasticity

In 1996, the Commission found that "most customers of domestic interexchange services are sensitive to changes in price, and customers would be willing to shift their traffic to an interexchange carrier's rival if the carrier raises its prices."[83] The Commission made the same finding in 1998 when it approved the WorldCom – MCI transfer application.[84]

There is much evidence to establish that long distance customers continue to be price sensitive today. First, as discussed above, consumers are increasingly substituting other modes of communication for wireline long distance services, and as a result the demand for wireline long distance service by consumers is falling. The average number of interLATA interstate minutes per residential subscriber per

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82 "Supercomm is Told VoIP is Emerging as Dominant Force," Communications Daily, June 3, 2003, p. 9.

83 *LEC Classification Order*, ¶ 97.

84 *WorldCom/MCI*, ¶¶ 41-42.

month decreased from 74 in 1997 to 41 in 2002, a decline of 44%.[85] CTIA data show that long distance calls accounted for nearly 25% of wireless traffic. Drs. Carlton and Sider calculate that roughly 29% of all interstate long distance traffic originated or terminated on a wireless network.[86] And the FCC and wireline long distance carriers have found that wireless services are being substituted for wireline long distance in part because there is no marginal cost for a long distance call under their wireless "bucket plans" until the bucket is empty.[87] As WorldCom has said, "wireless carriers increasingly compete for consumers through nationwide or regional "bucket of minutes plans."[88]

Second, there is no reason to suspect that customers incur substantial switching costs, particularly with respect to the BOCs. High churn rates demonstrate the ease of switching, and BOCs do not have a large cadre of long-term long distance customers. BOCs have no long distance customers with tenure of more than approximately three years.

Third, although the discussion above focuses on mass market customers, the points are equally, if not even more, true for larger business customers. In granting AT&T non-dominant status in 1995, the Commission found that larger business

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85 FCC, Statistics in the Long Distance Telecommunications Industry, Table 20.

86 Carlton/Sider/Shampine, ¶ 31.

87 *See* pages 18-20, above.

88 WorldCom, 2002 SEC Form 10-K, at 14.

customers are "highly demand-elastic."[89] The Commission reaffirmed that conclusion in 1998,[90] and it remains true today. Indeed, AT&T recently stated that price is the most important factor large businesses take into account in choosing telecommunications services.

> Competition in these basic communications services segments has more recently been based more on price and less on other differentiating factors that appeal to the larger business market customers, including range of services offered, bundling of products, customer service, and communications quality, reliability and availability.[91]

Thus, there is no evidence to support the proposition that BOCs could profitably increase their long distance prices above competitive levels.

4. Size, Resources, Financial Strength, and Cost Structures

Under this factor, the Commission seeks to determine whether a carrier's "lower costs, sheer size, superior resources, financial strength, and technical capabilities . . . 'are so great to preclude the effective functioning of a competitive market."[92] In the *LEC Classification Order*, the Commission concluded that the size and resources of BOC long distance competitors precluded BOC long distance affiliates from charging supracompetitive prices.

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89 *AT&T Non-Dominance Order*, ¶65.

90 *WorldCom/MCI*, ¶¶41-42.

91 AT&T 2002 SEC Form 10-K, at 1.

92 *AT&T Non-Dominance Order*, ¶ 73 (quoting *Competition in the Interstate Interexchange Market*, 6 FCC Rcd 5880, 5891-92 (1991)).

> [G]iven the presence of existing interexchange carriers, including such large well established carriers, as AT&T, MCI, Sprint and LDSS, we find that the cost structure, size, and resources of the BOC interLATA affiliates are not likely to enable them to raise prices above the competitive level for domestic interLATA services. Although the BOCs' brand identification and possible efficiencies of integration may give the BOC interLATA affiliates certain cost advantages in attracting customers, their lack of nationwide facilities-based networks would appear to put them at a disadvantage relative to the four largest interexchange carriers . . . particularly because the cost of resold long distance services will generally exceed the marginal cost of providing those services.[93]

This rationale is equally applicable today. Though LDSS and MCI are no longer separate firms (both having been acquired by WorldCom), the Commission has noted that several other nation-wide facilities-based networks have been constructed.[94]

Moreover, BOC competitors continue to assert that they have what it takes to compete against the BOCs in long distance services. AT&T Chairman and CEO David Dorman recently told a Chicago audience that "AT&T continues to invest, expand and grow in IP, global and managed services while improving processes, driving innovation and investing to improve our customers' experience." He added, "We also continue to see solid marketplace success with our consumer bundles. The bottom line is that our success is driven by our financial flexibility and strength and

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93 *LEC Classification Order*, ¶ 97.

94 *WorldCom/MCI*, ¶¶ 29, 34, 42.

our industry-leading scale, all of which provide significant competitive advantages."[95] WorldCom's Chief Marketing Officer was quoted as saying "Bell Companies don't present a major threat to WorldCom, Inc.'s business-service group . . . [they] don't have the products, systems, or sales forces to attack the middle and high-end segments of the business-service market."[96]

Wall Street analysts agree that BOC's do not have the assets to weaken the competitive significance of other long distance carriers. UBS Warburg, for example, specifically states that long distance will be a low-margin business for the BOCs going into the future.[97] Such low-margins are inconsistent with the ability to increase prices above competitive levels.

Moreover, the principal assets the BOCs have – their local networks – are increasingly competitive. The issue of whether BOC long distance offerings should be treated as non-dominant arises only after structural separation requirements sunset. Those requirements do not sunset until three years after BOC affiliates are permitted to offer interLATA service. That permission is not granted until BOCs

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95 AT&T Press Release, "AT&T Chairman Outlines Strategy, Competitive Advantages In Address To Illinois Business Leaders," June 18, 2003 (PRNewswire).

96 *Telecommunications Reports Daily*, May 7, 2002 (quoting Brian Brewer, Chief Marketing Officer, WorldCom).

97 UBS Warburg, "Fixed Line Communications," April 16, 2003 at 10 (BOC revenues will increasingly come from new, low-margin services, such as DSL, long distance voice and IP services).

have demonstrated that their local exchange markets are "irretrievably open to competition."

AT&T, MCI and other long distance carriers are increasingly becoming successful competitors in the local exchange and exchange access businesses themselves. New local exchange technologies (such as cable telephony as well as wireless services) and new competitors using traditional technologies (such as the numerous facilities-based CLECs) are competing with the BOC's local exchange network. And competitors are being permitted to lease that network themselves at below-cost prices. All of these developments further weaken any theoretical ability a BOC had of using its size and resources to change the competitive nature of the long distance marketplace.

C. Independent ILEC Long Distance Service Should Also Be Treated As Non-Dominant.

The Commission also seeks comment on whether the long distance service offerings of independent local exchange carriers should be treated as non-dominant when these services are offered by the ILEC itself, rather than an affiliate. It follows from the discussion above that ILEC long distance offerings should also be treated as non-dominant.

First, as set forth above, the Commission has stated that dominant carrier regulation is appropriate only if a carrier has the ability to raise and maintain prices above competitive levels by reducing its own output.[98] The Commission has also found that the same supply and demand characteristics that apply to AT&T and other long distance carriers, including low barriers to entry, apply to independent LECs.[99] Thus, application of the four market power factors discussed above "suggest that independent LECs do not have the ability profitably to raise and sustain prices above competitive levels by restricting the output of these [long distance] services."[100]

Second, existing structural separation requirements on ILECs are not as stringent as those imposed by Section 272. Thus, the elimination of those restrictions is even less likely to cause competitive harm.

Third, independent LECs tend to have smaller service areas than BOCs, and those areas tend to be less densely populated. As a result, the Commission said they "are less likely to be able to engage in anticompetitive conduct than the BOCs."[101] Indeed, the Commission has already allowed independent LECs offering long distance services only by resale to do so themselves (not through a separate subsidiary) as a non-dominant carrier.[102] Given that the risks of any

98 *See Second Reconsideration Order*, ¶ 8.

99 *LEC Classification Order*, ¶157.

100 *Id.*

101 *Id.*, ¶ 170.

102 *Second Reconsideration Order*, ¶¶19-23.

anticompetitive behavior by ILECs are perceived to be even lower, both BOCs and ILECs should be treated as non-dominant in long distance services.

D. BOCs and ILECs Should Be Treated as Non-Dominant Carriers in International Long Distance.

BOCs' and independent LECs' international long distance services should also be treated as non-dominant absent an affiliation between a BOC or other ILEC and a dominant foreign carrier as set forth in Section 63.12 of the Commission's rules.

All of the reasons why the domestic long distance business is sufficiently competitive apply to international long distance services as well. The BOCs and ILECs do not have dominant market shares; there is an abundance of supply, including international transport facilities; both business and residential customers are price-sensitive; and BOCs and ILECs have no market-destabilizing size or resource advantages.[103]

In addition, the BOCs and ILECs certainly have no greater ability to engage in anticompetitive activity with respect to international long distance services than they do with respect to domestic long distance services. The Commission has previously stated that a carrier that both originates and terminates a long distance

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[103] Indeed, SBC and most BOCs generally do not own international transport facilities and would need to resell services provided over the facilities of others. The Commission has previously stated that access discrimination and cost misallocation are less likely when long distance service is provided (continued…)

call is more likely to seek to engage in anticompetitive conduct than a carrier that only handles one side of the call.[104] Except when a BOC is affiliated with a dominant foreign carrier, a BOC (and its affiliates) will not be both originating and terminating any international communication.[105] Thus, there could be no greater incentive or ability to discriminate in the provision of access for international calls (even assuming that the BOC could distinguish between international calls of its long distance customers and calls of other carriers' customers) as compared to domestic long distance calls. Similarly, the incentive or ability of a BOC or ILEC to misallocate costs between local exchange and exchange access services and long distance services cannot be greater with respect to international long distance than it is for domestic long distance.

In addition, it is impossible for BOCs or ILECs to engage in price discrimination with respect to international calls. Commission regulations prevent any discrimination in access charges. For originating access charges, a BOC is required to impute access charges to itself under Section 272(e), just as it is required to do for domestic long distance. Terminating access charges are governed by the Commission's International Settlement Policy, which requires uniform

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(…continued)

by resale than when it is provided by use of their own facilities. *LEC Classification Second Reconsideration Order*, ¶ 22.

104 *LEC Classification Order*, ¶ 170.

accounting rates between foreign and domestic carriers.[106] Moreover, under Commission rules, all U.S. carriers pay identical "landing fees" to foreign operators.[107] Thus, there is no opportunity for price discrimination in the international services market.

IV. Numerous Other Regulatory Constraints on BOC Practices Are Adequate To Protect Against Other Alleged Anti-Competitive Harms

The sunset of structural separation requirements does not eliminate all statutory or regulatory safeguards. The continued existence of other provisions eliminates any theoretical ability successfully to discriminate against competitors or raise their costs. In fact, in the *Non-Accounting Safeguards Order*, the Commission recognized that while the section 272 requirements would sunset in three years, numerous other safeguards would continue to exist:

> A number of safeguards will be available to prevent discriminatory behavior by BOCs after the separate affiliate requirements of section 272 cease to apply. As we explain in detail above, section 251(c)(5), section 251(g), and the Commission's rules imposing network disclosure and equal access requirements oblige BOCs to provide exchange access on a nondiscriminatory basis. In addition, intraLATA services and

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(…continued)

105 When there is such an affiliation, existing rules in Part 63 are adequate to address any potential anticompetitive activity.

106 *See In the Matter of Regulation of International Accounting Rates*, 5 FCC Rcd. 4948, ¶¶1-2 (1990).

107 *See Implementation and Scope of the International Settlements Policy for Parallel International Communications Routes, Report and Order*, 51 Fed. Reg. 4736, 4743 (1986).

> facilities must be provided on a nondiscriminatory basis under section 251(c)(3), and the provision of interLATA services and facilities will continue to be governed by the nondiscrimination provisions of sections 201 and 202 of the Act. In addition, as local competition develops, it will provide a check on the BOCs' discriminatory behavior because competitors of the BOC affiliates will be able to turn to other carriers for local exchange service and exchange access.[108]

In addition to the statutes cited above, sections 272(e)(1) and (3) remain in effect after the sunset. These provisions address the two basic components of nondiscriminatory behavior: parity in performance and access charges. Subsection (1) provides that a BOC fulfill any requests for local or exchange access services for unaffiliated entities in a period no longer than it fulfills such services to itself and its affiliates, and subsection (3) requires that a BOC impute to itself an amount for local and exchange access services that is no less than the amount charged to unaffiliated carriers. Additionally, the comprehensive reporting requirements imposed on the BOCs to measure their provision of exchange access and access services and various elements of local exchange service to competitors remain, so that any non-price discrimination would be promptly detected. These provisions offer more than enough protection against discrimination.[109]

There is, however, no reason to believe BOCs (or ILECs) would engage in price or non-price discrimination in today's marketplace. Because access charges

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108 Non-Accounting Safeguards Order, ¶271.

109 Carlton/Sider/Shampine, ¶¶ 49-50.

are publicly published (through tariffs), any price discrimination (or increases in access prices allegedly due to improper cost shifting) would be easily detectable.

Any incentive to engage in non-price discrimination is also plainly unrealistic. Given the competition that exists today in all telecommunications services BOCs offer to the public, BOCs, as well as other carriers, wish to build upon customer goodwill, not destroy it. And the level of competition and the need for that goodwill will be even greater when structural separation requirements sunset in all of a BOC's states. Any attempt by a BOC to provide inferior service to other interexchange carriers — thereby creating inferior service for its local exchange customers — is more likely to alienate local exchange customers than win new interexchange customers.

Further, even if a BOC did discriminate, the BOC could not be sure that it would derive any benefit from the discrimination. For one thing, a customer (especially one prompted by its long distance carrier, which may well have a local exchange affiliate of its own) might well assume that the BOC caused the poor service. Even if the customer does not blame the BOC for the service problems, there is no reason to assume that the customer would switch its long distance service to the BOC. There are over 800 interexchange carriers offering service today, large numbers of which compete in any given state. A customer dissatisfied with MCI, for example, would be just as likely to switch to AT&T, Sprint, or one of the other carriers serving that marketplace as it would a BOC. Only if the general public knew that the BOC discriminated against all other long distance carriers would customers be incented to switch its long distance service to the BOC. And, of course, if customers were aware of such widespread discrimination, surely it would be apparent to competitors and to regulators.[110]

And if that discrimination were apparent – as it would have to be if it is to be successful – the Commission retains the requisite enforcement options after sunset to address it effectively. First, before and after sunset, Section 271(d) continues to give the Commission substantial authority to enforce Sections 272(e)(1) and (3). Section 271(d) allows the Commission to: order the BOC to correct the violation; impose a penalty pursuant to title V; and suspend or revoke Section 271 approval. Second, the Commission has recognized that the sunset "does not affect the Commission's authority to impose forfeitures and other sanctions and to grant damages and injunctive relief pursuant to §§ 4(i), 503, and 206-209 of the Act."[111] Third, the Section 208 complaint process allows carriers to collect monetary damages for violations of these nondiscrimination provisions. Through these enforcement tools, the Commission has the authority it needs to address any issues that might arise in a particular case.

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110 *See* Carlton/Sider/Shampine, ¶ 47-48.

111 *Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements*, WC Docket No. 02-112, *Notice of Proposed Rulemaking*, 17 FCC Rcd 9916, ¶27 (2002).

As discussed above, the Commission already has rejected the argument that dominant carrier regulation is useful in addressing claims of cross-subsidization. Concerns about cross subsidization are a relic from the past: when BOCs were under rate of return regulation, and, to a lesser extent, price caps with sharing regulation. Thus, in the *Non-Accounting Safeguards Order*, the Commission stated that the BOC may have an incentive to allocate improperly to its regulated core business costs that would properly be attributable to its competitive ventures "if the BOC is regulated under rate of return regulation, a price caps structure with sharing (either for interstate or intrastate services), a price caps scheme that adjusts the X-factor periodically based on changes in industry productivity, or if any revenues it is allowed to recover are based on costs recorded in regulated books of accounts."[112]

None of those circumstances is present today, when BOCs are generally regulated under a pure price cap regime (without sharing). As the Commission has itself noted: "[b]ecause price cap regulation severs the direct link between regulated costs and prices, a carrier is not able to recoup misallocated nonregulated costs by raising basic service rates, thus reducing the incentive for the BOCs to allocate nonregulated costs to regulated services."[113] BOC interstate access services are

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112 *Id.*, ¶10.

113 *Implementation of the Non-Accounting Safeguards of Section 271 and 272 of the Communications Act, as amended; and Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange*
(continued…)

subject to the CALLS order, which establishes specific price targets regardless of cost. And, to the extent relevant, the vast majority of states, particularly larger ones, regulate access prices through price caps.[114] There is, therefore, no incentive to shift costs.

Nor is dominant carrier regulation necessary to prevent predatory pricing. Not only is the likelihood of predatory pricing virtually nil, as the Supreme Court, the Commission, and economists have recognized,[115] but dominant carrier regulation is focused on keeping prices from being too <u>high</u>, not too low. Moreover, telecom competitors, like those in every other industry, have sufficient remedies in the antitrust law for predatory pricing where it can be proven. The Commission has recognized this point, concluding that it was unlikely that a BOC interLATA

(…continued)

Area, Notice of Proposed Rulemaking, 11 FCC Rcd 18877 ¶ 136 (1996), *citing Computer III Remand Proceedings: Bell Operating Company Safeguards and Tier 1 Local Exchange Company Safeguards*, 6 FCC Rcd 7571, 7596 (1991). *See also United States v. Western Electric Co., et al.*, 993 F.2d 1572, 1580, *cert. denied*, 114 S. Ct. 487 (1993): "[Price cap regulation] reduces any BOC's ability to shift costs from unregulated to regulated activities, because the increase in costs for the regulated activity does not automatically cause an increase in the legal rate ceiling."

114 Carlton/Sider/Shampine, ¶¶ 63-66.

115 *See Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 226 (1993) (quoting *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 589 (1986) ("[P]redatory pricing schemes are rarely tried, and even more rarely successful.")); *LEC Classification Order*, ¶107 ("[W]e conclude that it is unlikely that a BOC interLATA affiliate could engage successfully in predation."); Carlton/Sider/Shampine, ¶ 55 ("It is highly unlikely that a predatory strategy would be successful in the long distance industry.").

affiliate could engage successfully in predation.[116] Also, dominant carrier regulation is not needed to detect possible predation because BOC and ILEC access charges are public (through tariffs) and retail prices are generally advertised in the marketplace.[117] There is nothing about the elimination of structural separation that makes a predation strategy more likely to be successful.[118]

Finally, structural separation requirements have been eliminated for other products or services provided by BOCs, and BOCs have not obtained market power with respect to those services. Structural separation requirements were eliminated over 15 years ago for customer premises equipment ("CPE") and enhanced services. The Commission found in the Computer III Remand that BOCs were not discriminating against competing enhanced service providers.[119] Similar

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116 *See LEC Classification Order*, ¶ 107. The Commission has specifically found that "firms in dynamic industries such as telecommunications generally do not have the incentives to engage in predatory practices, because the success of such practices rests on a series of speculative assumptions." *In the Matter of Applications for consent to the Transfer of Control of Licenses and Section 214 Authorizations from Tele-Communications, Inc. to AT&T Corp.*, 14 FCC Rcd 3160, at ¶ 118 n.327 (*citing Matsushita Elec. Industrial Co. v. Zenith Radio Corp.*, 475 U.S. 574, 588-98 (1986); *PanAmSat Corp. v. COMSAT Corp.*, 12 FCC Rcd 6952, 6958-59 ¶¶ 18-20 (1997).

117 *See also* Carlton/Sider/Shampine, ¶ 78 (any attempted price squeeze would be readily detectable).

118 Carlton/Sider/Shampine, ¶¶ 51-66.

119 *Computer III Remand Proceedings: Bell Operating Company Safeguards and Tier I Local Exchange Carrier Safeguards,* 6 FCC Rcd 7571, 7602 ¶ 67 (1991).

requirements were eliminated a few years ago for interLATA information services. Competition in these areas remains vital.[120]

V. Conclusion

The long distance marketplace is more competitive today than it was in 1995 when AT&T was found non-dominant, and BOCs and ILECs do not have, and are unlikely to have, the ability profitably to raise and sustain long distance prices above competitive levels. BOCs and ILECs also do not have the ability to raise their long distance rivals' costs or otherwise interfere with the competitiveness of the long distance marketplace. When structural separation requirements lapse, BOC and ILEC long distance services should be declared non-dominant.

Respectfully submitted,

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June 30, 2002

120 *See* Carlton/Sider/Shampine, ¶¶ 67-71.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements	)	**WC Docket No. 02-112**
2000 Biennial Regulatory Review Separate Affiliate Requirements of Section 64.1903 of the Commission's Rules	)	**CC Docket No. 00-175**

DECLARATION OF
DENNIS W. CARLTON, HAL SIDER AND ALLAN SHAMPINE

June 30, 2003

I. QUALIFICATIONS

1. I, Dennis W. Carlton, am Professor of Economics at the Graduate School of Business of The University of Chicago. I have served on the faculties of the Law School and the Department of Economics at The University of Chicago and the Department of Economics at the Massachusetts Institute of Technology. I specialize in the economics of industrial organization, which is the study of individual markets and includes the study of antitrust and regulatory issues. I am co-author of Modern Industrial Organization, a leading textbook in the field of industrial organization, and I also have published numerous articles in academic journals and books. In addition, I am Co-Editor of the Journal of Law and Economics, a leading journal that publishes research applying economic analysis to industrial organization and legal matters. In addition to my academic experience, I am a consultant to Lexecon Inc., an economics consulting firm that specializes in the application of economic analysis to legal and regulatory issues.

2. I, Hal S. Sider, am a Senior Economist and Senior Vice-President of Lexecon Inc. I received a B.A. in Economics from the University of Illinois in 1976 and a Ph.D. in Economics from the University of Wisconsin (Madison) in 1980. I have been with Lexecon since 1985, having previously worked in several government positions. I specialize in applied microeconomic analysis and have performed a wide variety of economic and econometric studies relating to industrial organization, antitrust and merger analysis. I have published a number of articles in professional economics journals on a variety of economic topics and have testified as an economic expert on matters relating to industrial organization, antitrust, labor economics and damages. In addition, I have directed several studies of competition in telecommunications industries and have previously testified as an expert on telecommunications matters before the FCC and various state public utility commissions.

3. I, Allan L. Shampine, am an Economist at Lexecon Inc. I received a B.S. in Economics and Systems Analysis summa cum laude from Southern Methodist University in 1991 and a Ph.D. in Economics from the University of Chicago in 1996. I have been with Lexecon since 1996 and have performed a wide variety of economic studies relating to telecommunications and other industries. I have published a number of articles in professional economics journals on issues relating to telecommunications and technology. I am also editor of Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies (Nova Press, 2003), which addresses from an economic perspective the regulation of new telecommunications technologies. In addition, I have previously testified as an expert on telecommunications matters before the FCC.

II. INTRODUCTION AND SUMMARY

A. BACKGROUND

4. We have been asked by counsel for SBC, Verizon and Qwest to address certain issues raised in the Further Notice of Proposed Rulemaking (FNPRM) in these matters. In this notice, the FCC seeks comments on the "need for dominant carrier regulation of BOCs' in-region, interstate and international interexchange telecommunications services after sunset of the Commission's section 272 structural and related requirements in a state."[1] We address this issue below, along with the related question of whether the regulatory status of the long-distance operations of independent incumbent local exchange carriers (other than BOCs) should hinge on whether those operations are provided through a structurally separate affiliate. We use the term incumbent local exchange carriers or "ILECs" to refer collectively to the BOCs and independent LECs.

1. FNPRM, ¶2.

5. Section 272 of the Telecommunications Act of 1996 requires BOCs provide long distance services through a separate subsidiary for the first three years following approval to provide such services.[2] Although this provision does not apply to independent local exchange carriers, Commission rules require such carriers to adhere to less strict separation requirements in order to avoid dominant carrier regulation of their long distance services. In the absence of structural separation rules, ILECs would be free to more fully integrate their provision of long distance and other services. [3]

6. The FCC's FNPRM asks for comments regarding whether the FCC should impose "dominant carrier" regulation on BOCs' provision of long distance services following expiration of separate subsidiary requirements under Section 272. We understand that, if applied to the BOCs and other ILECs, these regulations: (i) could require those LECs to file tariffs, possibly with detailed cost data; (ii) may subject their ILECs' long distance services to price cap regulation; and (iii) would require them to comply with restrictions on market exit.[4]

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2. As explained in the FCC's initial notice in this proceeding, BOCs and their long distance subsidiaries: (i) may not jointly own transmission and switching equipment; (ii) may not share employees or real estate; (iii) may not perform any operating, installation, or maintenance functions for each other; and (iv) must maintain separate books of account; (v) must have separate officers and directors; and (vi) must conduct all transactions on an arm's length basis.) FCC, NPRM in the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements, WC Docket NO. 02-112, FCC 02-148, May 24, 2002, 4-5.
3. Both SBC and Verizon have estimated that expiration of separate subsidiary rules would result in large savings over coming years. Verizon estimates that it could save "almost $247 million through 2006 if the separate affiliate restrictions were eliminated today…" Comments of Verizon in the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements, WC Docket No. 02-112, August 5, 2002, pp. 10-11. SBC estimates that it could save "50 percent for personnel in the network engineering, customer care, billing and network operations departments" as well as large additional savings in labor costs. Comments of SBC Communications Inc. in the Matter of Section 272(f)(1) Sunset of the BOC Separate Affiliate and Related Requirements, WC Docket No. 02-112, August 8, 2002, pp. 7-8.
4. FNPRM, ¶37.

7. In the FNPRM, the FCC notes that "dominant carrier regulation should be imposed on a carrier only if it could unilaterally raise price and sustain prices above the competitive level and thereby exercise market power by restricting its output or by its control of an essential input."[5] Based on this perspective, the FCC requests comments on the current scope of competition in the provision of long distance service as well as comments on whether expiration of separation requirements enables ILECs to harm competition by manipulating rivals' access to the local network. More specifically, the FCC asks whether expiration of structural separation rules would:

- facilitate non-price discrimination by ILECs against their long distance rivals;
- enable ILECs to engage in a "price squeeze" designed to drive their long distance rivals from the market;
- enable ILECs to harm competition by shifting costs from their long distance to local service operations.

B. SUMMARY OF CONCLUSIONS

8. We conclude that permitting the BOCs and independent ILECs to integrate their long-distance and local exchange operations will not adversely affect competition.[6] Thus, there is no economic basis for imposing dominant carrier regulation on BOCs' in-region long distance service based on the sunset of Section 272 structural separation requirements, nor is there any economic basis for conditioning the non-dominant status of independent LECs' long distance operations on the structural separation of those operations.

5. FNPRM, ¶5.
6. As noted above, separation requirements faced by non-BOC ILECs are less restrictive than those faced by BOCs. Our conclusion that expiration of the BOC rules would not adversely affect consumers necessarily implies that expiration of the less stringent rules faced by non-BOC ILECs also would not result in consumer harm.

9. First, competition in the provision of long distance services has increased dramatically since 1995 when the FCC determined that AT&T should not be subject to dominant carrier regulation.[7] As discussed in more detail in Section III below, competition along each of the dimensions considered by the FCC has increased:

- The share of wireline subscribers served today by ILEC long distance services (in areas in which they are authorized to provide them) is far smaller today than AT&T's share in 1995, when the FCC concluded that it was not a dominant carrier. More generally, the concentration of wireline long distance services has fallen dramatically since 1995.
- Consumers are increasingly using alternative technologies for long distance communications. Since 1995, wireless services have come to account for a substantial and growing fraction of long distance calls. There also has been tremendous growth in e-mail and instant messaging, which are substitutes for certain long distance calls. Emerging technologies such as "voice over Internet Protocol" (VoIP) and continued growth of existing alternatives to wireline long distance service promise even greater future competition.
- Analysts and carriers agree that there is a glut of capacity in long distance facilities resulting from the deployment of new national fiber optic networks as well as increased capacity of network electronics, which are placing downward pressure on prices.
- Wireline long distance usage has fallen substantially over recent years, from an average of 71 minutes per month in 1995 to 41 minutes per month in 2002. As a

7. The FCC's opinion in that matter addressed the conditions under which a long distance supplier can exercise market power (in the absence of any ability to manipulate access to the local network which, as shown below, is unaffected by expiration of Section 272).

result of both declining prices and usage, average monthly household wireline long distance spending has fallen from $21.42 in 1999 to $12.39 in 2002.

10. Second, expiration of structural separation rules would not enable ILECs to adversely affect competition by manipulating access to their local network. As discussed in more detail in Section IV below:

- The expiration of structural separation rules does not adversely affect the ability of regulators to detect non-price discrimination in the provision of access services by ILECs. A number of regulatory safeguards against discrimination would remain in effect following expiration of the structural separation requirement. In addition, ILECs' rivals in the provision of long distance service include large and sophisticated companies that routinely monitor the quality of access services that they receive.
- The expiration of structural separation rules would not give ILECs the incentive or ability to harm competition by engaging in a predatory "price squeeze" designed to drive their long distance rivals from the market. It is widely recognized that successful predation is rare. It is especially unlikely that it could succeed in industries, like telecommunications, in which there are substantial fixed assets that are likely to remain in the industry even if rival long distance companies become bankrupt. The continuing presence of these assets in the industry precludes recoupment of any investment in predation. Moreover, even if an ILEC could drive and keep its competitors from the industry, it would have no assurance of being able to recoup its losses because it would likely face re-regulation of the rates it charges due to its new monopoly status. Because

recoupment is so unlikely, it is highly unlikely that any ILEC would pursue such a strategy.

- Nor would the elimination of structural separation requirements increase ILECs' incentive or ability to harm competition by engaging in cross-subsidization. The FCC raises concerns that cost shifting can (i) facilitate predation or (ii) enable ILECs to avoid regulation of local services. With respect to the former, an ILEC's incentive and ability to engage in predation does <u>not</u> depend on its ability to shift costs. With respect to the latter, cost shifting makes sense only if it enables the ILEC to recover these costs in the price of the regulated service. However, due to price cap regulation of local service rates and intrastate access charges as well as the FCC's CALLS order regulating interstate access charges, prices for regulated services are now set with little regard to costs. In any event, as the FCC itself has recognized, dominant carrier regulation of long distance services is designed to ensure that long distance rates are not too high and is an inappropriate tool for protecting against improper local rate increase.

11. In Section V we elaborate on this point and show that even if one were to (incorrectly) conclude that the expiration of structural separation rules raised competitive concerns, dominant carrier regulation is ill suited to address them. We also discuss how, in the absence of competitive concerns resulting from expiration of the structural separation requirements, imposition of dominant carrier rules would adversely affect competition in the provision of long distance services by discouraging competition and development of new services.

III. THE INDUSTRY HAS BECOME MUCH MORE COMPETITIVE THAN IN 1995, WHEN THE COMMISSION DETERMINED THAT AT&T WAS NOT A DOMINANT FIRM

12. The FNPRM requests comments on the current scope of competition in the provision of long distance service and asks whether the lifting of structural separation requirements risks harm to competition that requires imposition of dominant carrier regulation. This section shows that, using the FCC's framework for evaluating competition in long distance services (in the absence of concerns about manipulation of access to the local network), there is no basis for subjecting ILECs to dominant carrier regulation.

13. The FCC concluded in 1995 that AT&T's long distance service should not be subject to dominant carrier regulation.[8] Because AT&T did not provide local exchange services, the FCC's review at the time focused exclusively on conditions in the long distance marketplace. We maintain the same approach in this section. As noted above, however, the FNPRM also raises concerns that expiration of the separate subsidiary requirements would give ILECs the incentive or ability to raise long distance prices by manipulating access to their local network through non-price discrimination, executing a predatory price squeeze or engaging in cost shifting. Section IV below shows that there is no basis for these concerns.

A. FRAMEWORK FOR EVALUATING ILECS' DOMINANCE AS LONG DISTANCE SERVICE PROVIDERS

14. The exercise of defining economic markets is undertaken in order to determine the forces that determine price and to determine whether firms can exercise market power. A properly defined market includes all firms whose participation in provision of a service significantly constrains the price under analysis.[9]

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8. FCC, Order in the Matter of Motion of AT&T Corp. to be Reclassified as a Non-Dominant Carrier, FCC 95-427, 11 FCC Rcd 3271, October 23, 1995 (hereafter, "AT&T Non-Dominance Order").
9. According to Carlton and Perloff, Modern Industrial Organization, 3rd edition, "[a] firm (or group of firms acting together) has market power if it is profitably able to charge a price

15. The FNPRM states that rapid changes in the telecommunications industry in recent years have blurred traditional distinctions between wireline and wireless services and between local and long distance services. These changes complicate the delineation of a precise market definition. However, it is not necessary to precisely delineate the current scope of the product market to address the question posed in the FNPRM – whether ILECs should be subject to dominant carrier regulation following expiration of structural separation requirements. This is because, compared to 1995 – when the FCC determined that AT&T was not dominant – the industry has become much more competitive, regardless of the precise market definition used. Therefore there are no changes in competitive conditions that justify imposition of dominant carrier regulation.

16. In the 1995 AT&T Non-Dominance proceedings, the FCC addressed the conditions under which a long distance carrier should be subject to dominant carrier regulation.[10] The Commission's analysis focused on four factors: (1) market share; (2) demand elasticity; (3) supply elasticity; and (4) disparities in size, resources, financial strength and cost structures

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(...continued)
above that which would prevail under competition, which is usually taken to be marginal cost." (p. 610.) A market is defined to include "all those products that are close demand or supply substitutes." (p. 612) The Merger Guidelines of the U.S. Department of Justice and Federal Trade Commission define two services as being in the same market if a small, but non-transitory price increase by a monopoly provider of one of these services would cause enough buyers to shift their purchases to the other service so as to render the price increase unprofitable. U.S. Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines, Revised April 8, 1997, Section 1.11. The FCC relies on the same basic framework and specifically applies the Merger Guidelines approach in FCC, Opinion in the Matter of Regulatory Treatment of LEC Provision of Interexchange Services Originating in the LEC's Local Exchange Area and Policy and Rules Concerning the Interstate, Interchange Marketplace, 12 FCC RCD 15, 756 (hereafter, "LEC Non-Dominance Order"), ¶25.

10. The FCC's analysis did not address the effect on long distance prices of a long distance carrier's ability to manipulate access to the local network, since AT&T did not provide local exchange services.

among the market participants.[11] At that time the FCC highlighted the fact that:

- AT&T's share of subscribers and revenue had rapidly declined in prior years;
- There was significant excess capacity in the long distance industry and competitors could readily expand.[12]
- AT&T's customers readily switched long distance carriers.[13]
- AT&T's large size, financial strength and technical capabilities were not sufficiently unique to confer market power.[14]

17. In this section we review the current state of competition in the long distance industry using the same general framework and show that, along each dimension, the industry has become much more competitive than in 1995, when the Commission determined that AT&T was not a dominant firm.

B. RECENT CHANGES HAVE BROUGHT INCREASING COMPETITION TO THE LONG DISTANCE INDUSTRY

18. Along each of the dimensions analyzed by the FCC in the AT&T Non-Dominance proceeding, the long distance industry today faces considerably more competition than in 1995.

- The industry faces increased competition from new wireline service providers, principally BOCs. Although the BOC entry has heightened competition in the provision of long distance services, by any measure their share remains well below that of AT&T in 1995 when AT&T was declared non-dominant. Each BOC (and independent ILEC) is expected to account for less than 10 percent of wireline subscribers nationwide, even after the 271 process is complete. Each BOC's (in-region) share of wireline subscribers is expected to remain far lower

11. AT&T Non-Dominance Order, ¶38.
12. Id., ¶70.
13. Id., ¶63.
14. Id., ¶73.

than AT&T's share in 1995. Overall, industry concentration has fallen sharply and the disparity in the share of subscribers served by the major wireline long distance firms is expected to remain much smaller than in 1995.

- Wireline long distance service providers also face substantial and growing intermodal competition from wireless services. E-mail and instant messaging, which are substitutes for certain long distance calls, provide a significant additional source of competition. As a result, the volume of wireline long distance minutes has declined sharply in recent years. Under these circumstances, attempts by wireline providers to raise prices would result in the loss of minutes to wireless services, e-mail and instant messaging, even if ILECs retained their existing long distance customers.
- There has been a vast increase in industry capacity in recent years resulting from massive deployment of new fiber optic capacity as well as increases in capacity due to advances in network electronics.

19. As shown below, the long distance industry is in the midst of large-scale and fundamental changes. Such circumstances reduce the ability even of firms that account for a large share of industry output to exercise market power (as well as attempts by members of an industry to act in any coordinated fashion). In dynamic industries, firms will have varying perceptions about future demand and supply conditions and, as a result, will have strong incentives to pursue independent strategies. Under these circumstances, current market shares and concentration measures are likely to be poor indicators of a firm's future ability to exercise market power or the ability of firms in the industry to act in a coordinated fashion.

1. The concentration of wireline long distance services has declined dramatically in recent years.

20. According to FCC data, AT&T accounted for roughly 55 percent of long distance revenue, 59 percent of long distance minutes and more than 65 percent of subscribers when the FCC concluded it was not dominant in 1995.[15] The next largest carrier at the time, MCI, accounted for 17 percent of long distance revenues -- roughly 30 percent of AT&T's.[16]

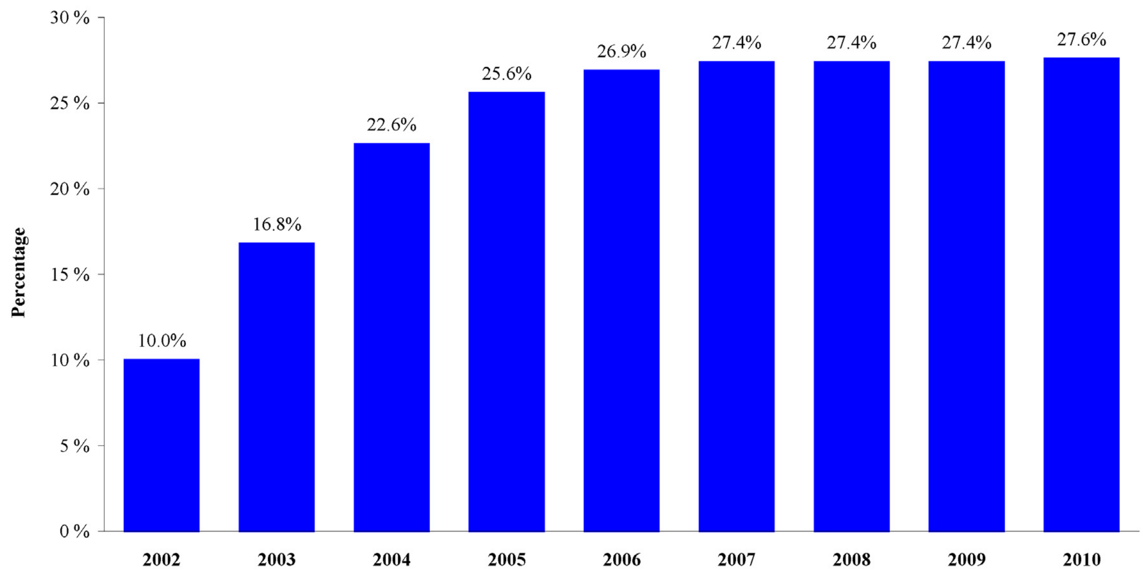
21. Since that time, AT&T's share and industry concentration has declined rapidly. Nonetheless, AT&T remains, by far, the nation's largest provider of long distance services. The FCC reports that as of 2001, the most recent data available, AT&T's share of long distance toll service revenue was 37 percent.[17]

22. The share of long distance subscribers served by BOCs has been growing rapidly due to the expansion of the number of states in which long distance service has been authorized (and BOCs' success in obtaining new customers). As of June 2003, BOCs have received approval to provide long distance service in 43 states (and Washington, D.C.), which account for more than 80 percent of BOC lines.[18] As shown in Figure 1, BOCs together combined for an estimated 10 percent of wireline long distance subscribers in 2002. This share is projected to increase to 17 percent in 2003 and 26 percent in 2005, following the expected expansion of BOCs' authority to provide long distance service in the remaining states.[19]

15. AT&T Non-Dominance Order ¶67 (citing 1994 data).
16. FCC, Long Distance Market Shares Fourth Quarter 1998, March 1999, Table 3.2.
17. FCC, Statistics of the Long Distance Telecommunications Industry, May 2003, Table 7.
18. Id., Table 12, and FCC, Qwest 271 Order for Minnesota, FCC 03-142, June 26, 2003.
19. These figures reflect BOCs' share of all wireline subscribers, which include subscribers of CLECs and independent ILECs. Deutsche Bank estimates that BOCs' share of their own local service customers will reach roughly 38 percent in 2005. Deutsche Bank, "Wireline – Mid Year Review: Last Man Standing," May 27, 2003, p. 143, 157, 168.

Figure 1:

Projected Combined RBOC Shares of Wireline Long Distance Subscribers 2002 - 2010



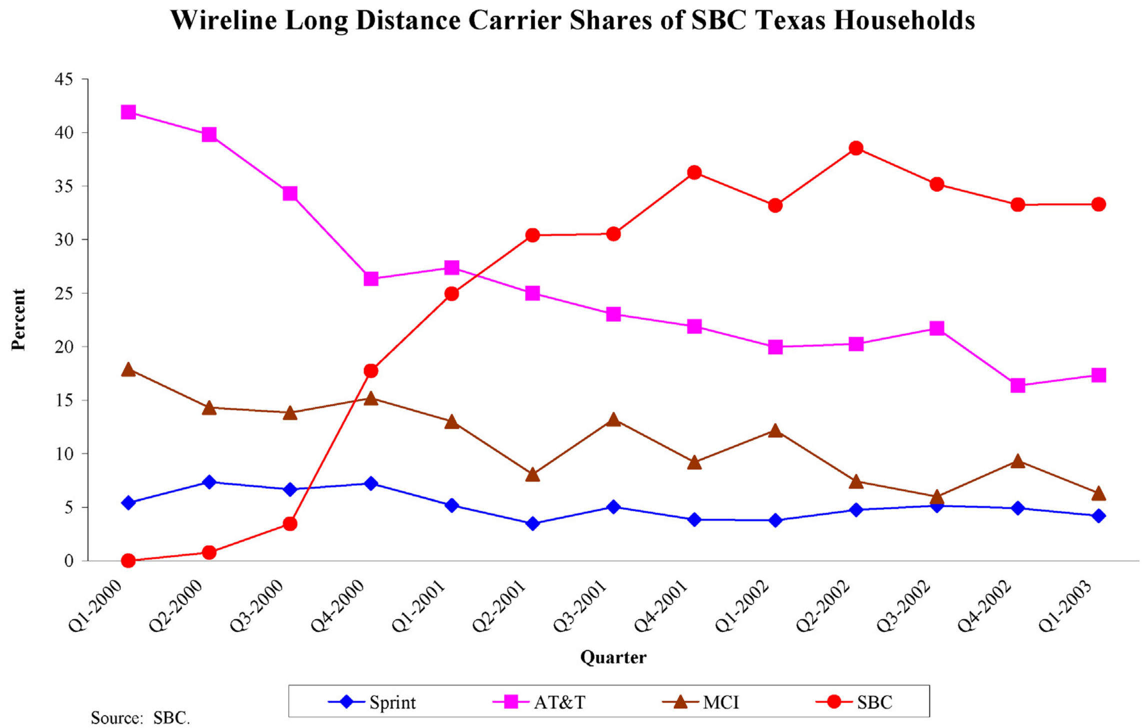
Source: Deutsche Bank, Wireline - Mid Year Review: Last Man Standing, May 27, 2003, p. 185.
Note: 2003-2010 are forecasts.

23. After that date, however, little further growth in BOCs' share of wireline long distance subscribers is anticipated. This is consistent with evidence from states in which BOCs have already entered which indicates that "[t]he experience (thus far) of the RBOCs getting into new markets has been one of significant initial market share gains and then relative stabilization within 18 months of entry."[20]

24. The rapid growth and subsequent stabilization of BOCs' share following 271 approval is shown in Figure 2, which reports changes in the shares of households served by major long distance carriers in areas of Texas served by SBC following SBC's 271 authorization in June 2000. As the figure shows, SBC's share in its regional footprint went from zero to roughly 35 percent by the fourth quarter of 2001 and has been roughly stable since that time.

20. Deutsche Bank, "Wireline - Mid Year Review: Last Man Standing," May 27, 2003, p. 35.

Figure 2:



Source: SBC.

25. While Figure 1 reports BOCs' combined share of long distance subscribers, it can also be interpreted as an approximation of the average BOC share in a given region, since only one BOC operates in a given area. Thus, the data imply that, in any given region, BOCs will account for a substantially smaller share of wireline long distance subscribers than AT&T did in 1995. Calculation of BOCs' shares in this way, however, does not necessarily imply that geographic markets for long distance services are regional. Factors such as geographic price averaging requirements and the ability of BOCs to enter out-of-region suggest that the geographic scope of the market may be broader.

26. Even if shares and concentration are calculated on a regional basis in this way, the data reveal dramatic declines in wireline concentration and further show that BOCs' expected share is well below AT&T's national share in 1995, when it was declared to be non-dominant. As shown in Table 1, measured on the basis of the average BOCs' expected in-region share of presubscribed lines, the concentration of the wireline long distance industry has fallen

dramatically since 1995. The Herfindahl-Hirschman Index (HHI) for wireline long distance providers (in a given region) is expected to decline to roughly 1500 in 2005, far below the level of roughly 4700 that prevailed in 1995.[21] If each BOC's national share is used in the calculation, the HHI falls to about 1,100. These figures also implicitly exaggerate shares and concentration by not accounting for long distance traffic carried by wireless firms (as well as ignoring the impact of e-mail, instant messaging and other forms of "intermodal" competition).

Table 1:

Long Distance Presubscribed Wireline Shares and Approximate HHIs

Year	AT&T	MCI	Sprint	Combined RBOCs	Others	Regional HHI[1]	National HHI[2]
1995	66.4%	15.7%	6.4%		11.5%	4,708	4,708
2005	24.4%	14.2%	5.1%	25.6%	30.7%	1,509	1,060

Source: FCC, Long Distance Market Shares Fourth Quarter 1998, March 1999, Table 2.2 (http://www.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/IAD//mksh4q98.pdf) for 1995 data; Deutsche Bank, Wireline Mid-Year Review: Last Man Standing, May 27, 2003, pp. 185, 143, 157, 168 for 2005 data.

Notes: HHI calculation treats "others" as group of 1% firms.
1/ Regional HHI based on assumption that each RBOC's 2005 share is equal to RBOCs combined national share.
2/ National HHI based on each RBOC's expected nationwide share (Verizon 9.8%; SBC 9.3%; BellSouth 4.0%; Qwest 2.4%).

27. Moreover, the disparity in the number of subscribers served (in a given region) between BOCs and other carriers that is expected in 2005 is much smaller than when AT&T was declared to be a non-dominant carrier in 1995. As noted above, AT&T's revenues were more than three times as large as its next largest rival at that time. The Deutsche Bank forecasts for 2005 indicate that AT&T is expected to account for 27 percent of industry gross toll revenue (which includes long distance, intraLATA toll and private line revenue), BOCs' (combined) will account for 19 percent, MCI will account for 14 percent and Sprint will account for 7 percent.

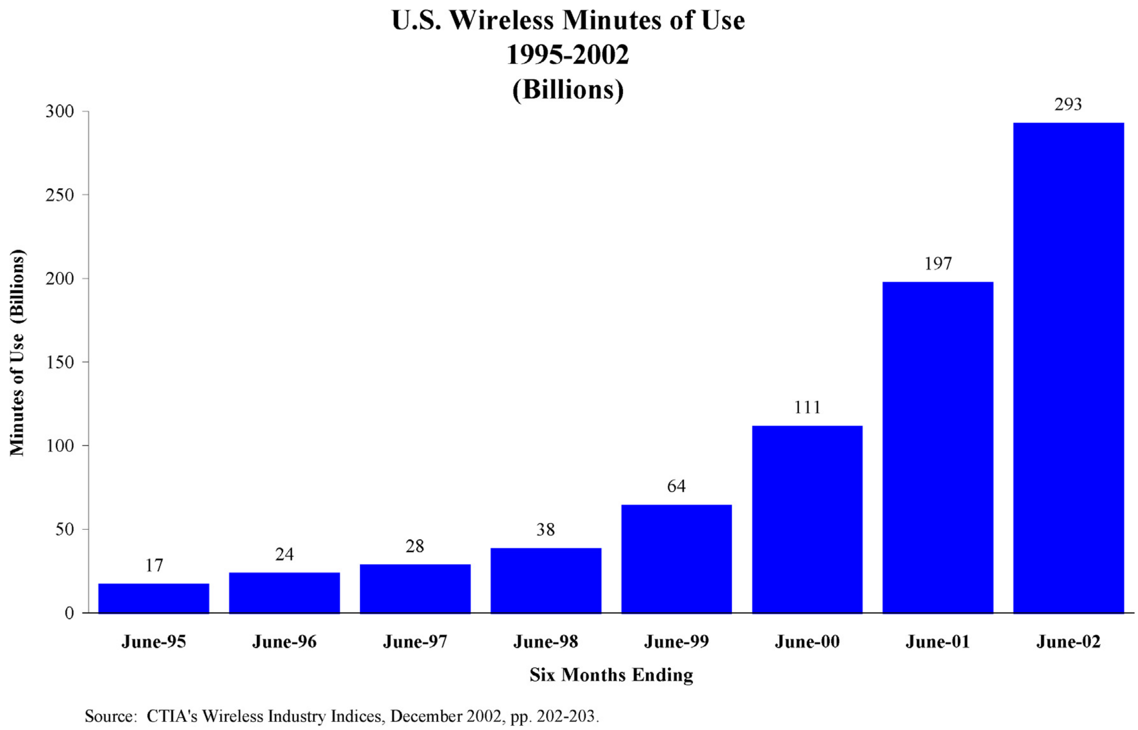
21. With shares measured on a revenue basis, the HHI for wireline services in 1995 was roughly 3,400. Revenue-based forecasts for wireline long distance shares for 2005 are not available. However, to the extent that BOCs have been successful in attracting AT&T subscribers, who typically generate below-average revenue per subscriber, then the revenue-based HHI for 2005 would be expected to be below the reported subscriber based figure.

2. Wireline long distance service faces substantial and growing competition from wireless services and new technologies

28. Standard measures of subscriber shares and concentration based on wireline subscribers overstate the concentration of long distance services and implicitly understate the increase in competition in recent years. This is because wireline long distance services now face substantial competition from wireless services, e-mail and instant messaging. These services were in their infancy in 1995, but have contributed to a substantial loss in long distance minutes carried on wireline networks in recent years. In the current environment, a unilateral attempt by an ILEC to raise prices charged for long distance would be expected to result not only in a loss of customers to rival wireline providers but also a substantial loss in minutes of long distance calling time to other service "platforms."

29. The penetration of wireless services has grown with extraordinary speed in recent years. Between June 1995 and June 2002, the number of subscribers to wireless services in the United States increased by nearly 400 percent, from 28 million to 135 million. Total wireless minutes of use increased even more dramatically over this period. Between 1995 and 2002, total wireless minutes of use increased by more than 1,600 percent. (See Figure 3.)

Figure 3:



30. The emergence of new pricing mechanisms in wireless service plans has contributed to rapid growth in the use of wireless services for long distance calls. These include "bucket" plans (which offer a given number of minutes for a flat monthly rate) that effectively reduce the marginal costs of long distance calls to zero for many consumers. Recent analyst reports focus on substitution between wireline and wireless long distance use:

> [W]ith changes in wireless pricing – more bucket plans with huge (or unlimited) bundles of night and weekend minutes, including long distance – there is growing evidence that wireless is starting to have more and more of an impact on the wireline telecom service providers.[22]
>
> Wireless MOU cannibalization has been particularly fierce in recent years as the bucket pricing is essentially giving away free long distance during the primary "consumer" hours (after 9PM and on weekends). We expect this to continue… [23]

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22. Merrill Lynch, "Wireless Svc: Landline Substitution Becoming More Meaningful," April 22, 2002, p. 3.
23. Lehman Brothers, "AT&T," November 18, 2002, p. 4.

31. The Cellular Telecommunications Industry Association (CTIA) estimates that in 2002 interstate long distance calls accounted for nearly 25 percent of wireless traffic.[24] This, in turn, implies that wireless service accounts for roughly 29 percent of originating interstate long distance traffic.[25]

32. It is also widely recognized that e-mail and instant messaging provide a substitute for certain long distance calls. These forms of communication were used little if at all in 1995, but now account for billions of messages daily.

- The number of adults online, and thus with access to e-mail and instant messaging, increased from 17.5 million in 1995 to 137 million in 2002.[26] The number of high speed Internet lines increased from 2.8 million in December 1999 to nearly 20 million in December 2002.[27]
- Estimates of the number of e-mail messages vary widely. According to one conservative estimate, the number of e-mail messages sent in the U.S. and Canada were expected to nearly triple between 2000 to 2003, from 6.1 billion per day to 13.7 billion per day.[28]

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24. Wireless Carrier Interstate Traffic Studies, presented in a letter from Michael Altschul of CTIA to the FCC, September 30, 2002.
25. This figure is calculated using data on total wireless minutes of use, inbound and outbound wireless calls, interstate switched access minutes, dial equipment minutes and total voice traffic reported in the CTIA's December 2002 Wireless Industry Indices survey, along with data from a CTIA survey of wireless long distance usage of five national carriers as presented in a letter from Michael Altschul of the CTIA to the FCC, September 30, 2002. The calculation assumes that the share of landline call volume that respectively terminates with (i) landline and (ii) wireless subscribers is equal to the shares of landline and wireless minutes.
26. http://cyberatlas.internet.com/big_picture/geographics/article/0,,5911_1011491,00.html (Nielsen Cyberatlas).
27. FCC, High-Speed Services for Internet Access: Status as of December 21, 2002, June 2003, Table 1
28. International Data Corporation data, eMarketer, April 23, 2001.

- In addition, instant messaging services are becoming more attractive alternatives for long distance calls. For example, Microsoft and Apple have both released test versions of their instant messaging software that incorporate both voice and video. The final Microsoft version is expected to be available free of charge, while the Apple version will be available free with Apple's new operating system.[29]

33. The explosive growth in wireless services and e-mail has resulted in a substantial decline in wireline long distance usage in recent years, despite substantial declines in retail prices (which are discussed below). For example:

- As shown in Figure 4, FCC data indicate that the average wireline interLATA interstate usage fell from 71 minutes per month in 1995 to 41 minutes per month in 2002, a decline of 42 percent.[30]
- As summarized in a recent Merrill Lynch analyst report, "[w]hereas two years ago an average wireline consumer LD customer made seven calls per week averaging eight minutes per call, now that same customer makes five calls a week averaging somewhat more than seven minute per call."[31]

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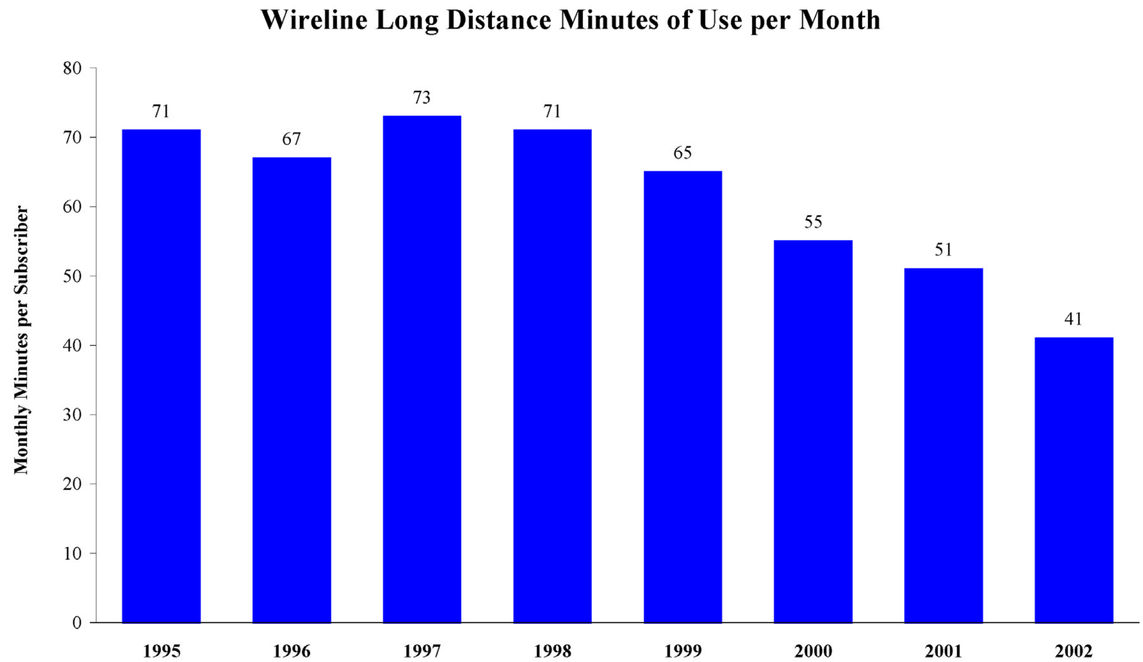
29. David Pogue, "Video Chat Software Revisited," New York Times, June 26, 2003.
30. FCC, Statistics of the Long Distance Telecommunications Industry, May 2003, Table 20.
31. Merrill Lynch, "Wireline Services: Landline Substitution: Becoming More Meaningful," April 22, 2002, p. 2.

Figure 4:



Source: FCC's Statistics of the Long Distance Telecommunications Industry, May 2003, p. 37.
Note: Wireline long distance data reflect interLATA interstate calls.

34. Analysts estimate that the growth of wireless services and the Internet account for an even larger reduction in traffic carried by wireline long distance service providers than losses due to the entry of BOCs into the provision of long distance service.

- According to Lehman Bros., AT&T's consumer business lost roughly $3.5 billion in revenue between 2001 and 2002. They estimate that "70% of that is due to wireless and Internet substitution (email etc.)" and that competition from BOCs accounts for "less than a third of the total."[32]
- According to Merrill Lynch, "[w]ireless is evidently driving a substantial migration of LD minutes (impacting RBOC switched access minutes of use). AT&T … indicated that consumer long distance calling volumes in 4Q02

32. Lehman Brothers, "AT&T," November 18, 2002, p. 4.

declined at a low double-digit rate driven by competition and a continued substitution."[33]

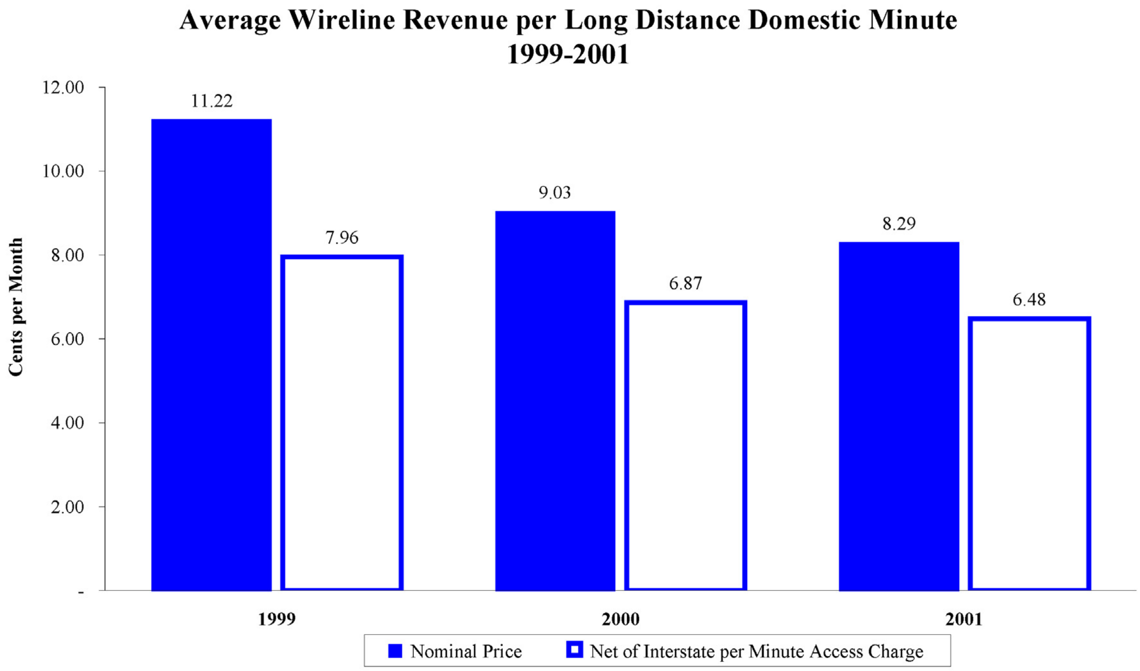
- Merrill Lynch also reports that Sprint's "consumer LD voice volumes for wireline subscribers were down 10% YoY [year over prior year]. Sprint apportioned 75% of the impact to wireless substitution and the remaining 25% to email traffic. We estimate that AT&T's consumer LD revenue will decline 25% YoY in 2002, with more than half of the decline coming from wireless. … Clearly, people are not talking less, and we believe the majority of these 'lost' wireline minutes are in fact moving over to wireless."[34]

3. Long distance prices and spending have declined in recent years

35. Not surprisingly, the increases in long distance competition in recent years have resulted in declining prices. As shown in Figure 5, FCC data indicate that average revenue per minute for interstate long distance calls with wireline carriers fell from 11.2 cents per minute in 1999 to 8.3 cents per minute in 2001, the most recent data available. Net of minute-based access charges, average long distance prices fell from 8.0 cents per minute in 1999 to 6.5 cents per minute in 2001.

33. Merrill Lynch, "BellSouth Corp.", January 27, 2003, p. 5.
34. Merrill Lynch Capital Markets, "Wireless Svc: Landline Substitution: Becoming More Meaningful." April 22, 2002, p. 3.

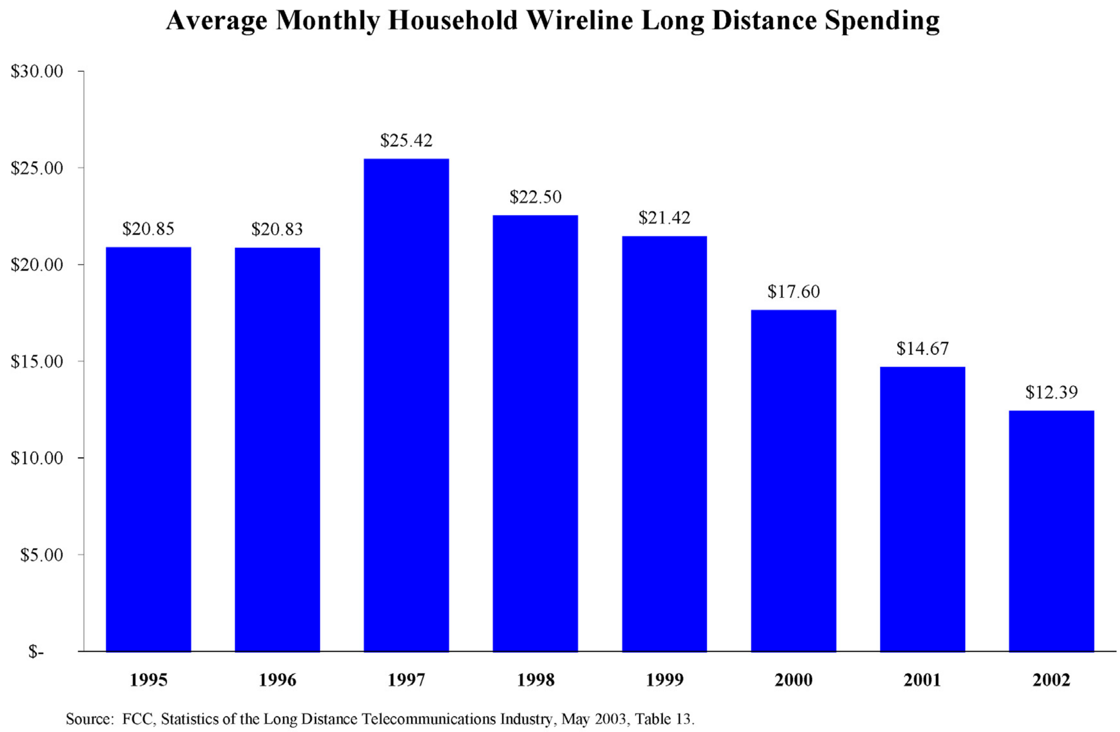
Figure 5:



Source: FCC's Statistics of the Long Distance Telecommunications Industry, May 2003, Table 5; Trends in Telephone Service, May 2002, Table 1.2.

36. The combination of the decline in price and the decline in long distance usage described above, has resulted in a large decline in consumer long distance spending in recent years. As shown in Figure 6, average monthly household spending on long distance carriers fell from $20.85 in 1995 to $12.39, a decline of nearly 40 percent. In inflation-adjusted terms, the decline is even larger, approximately 50 percent.

Figure 6:



4. There has been a massive increase in transmission capacity in recent years.

37. The FCC's 1995 AT&T Non-Dominance Order stressed that there is capacity available for industry expansion and that long distance carriers have the ability to do so.[35] Since that time, there have been massive increases in fiber optic capacity throughout the United States as several new, national fiber optic networks have been deployed.

38. According to 1999 estimates, the number of fiber-kilometers of fiber optic cable deployed in the United States was expected to increase from 5.9 million in 1996 to 35.9 million in 2001. (See Figure 7.) This includes new networks deployed by Qwest, Level 3, Williams, IXC, and a variety of others as well as expansion by existing network providers. As is widely recognized, this massive expansion produced a "glut" that resulted in a number of bankruptcies. Nonetheless, this fiber capacity remains in place leaving existing carriers and entrants the ability to rapidly expand.

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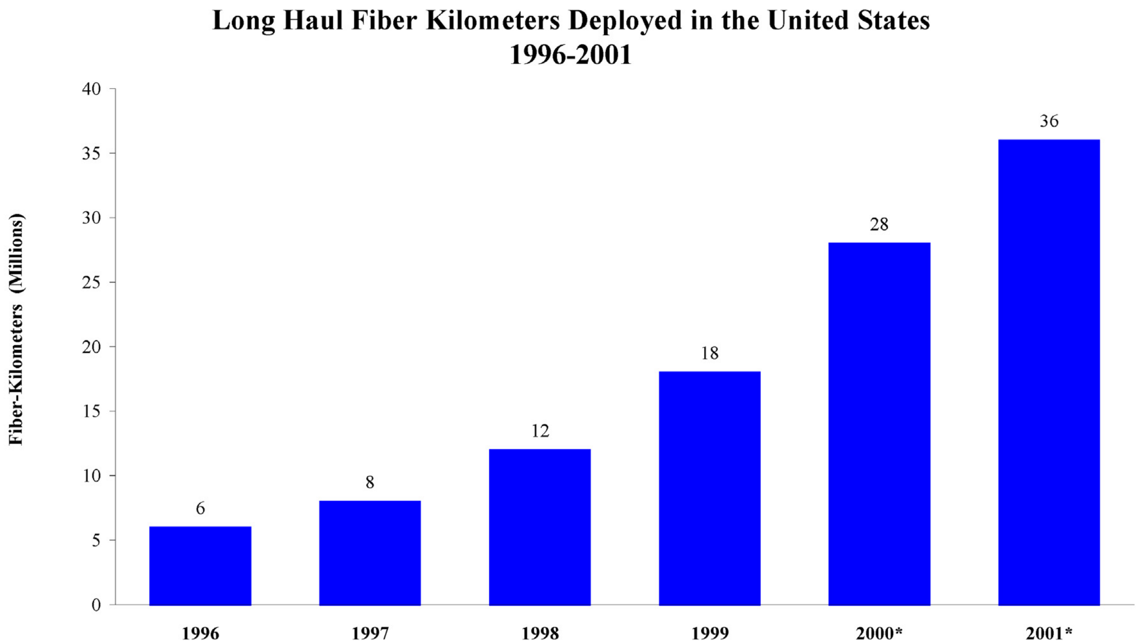
35. AT&T Non-Dominance Order, ¶58.

Figure 7:



Source: KMI Corp., Fiberoptic Networks of Long Distance Carriers in North America: Market Developments and Forecast, November 1999, p. A-1.
* Estimates

39. Even the growth in fiber deployment implicitly understates the increase in telecommunications capacity due to the continuing development of electronics capable of carrying larger amounts of information in a given optical fiber. For example, in the FCC's 1998 MCI WorldCom Order, the FCC noted that new network technologies, such as Dense Wave Division Multiplexing (DWDM) alone were expected to allow a 100-fold increase in U.S. fiber backbone capacity between 1997 and 2000.[36] Since that time, new network technologies permit even greater increases in capacity. In 1998, Ciena's DWDM equipment transmitted up to 240 Gb/s.[37] The current version of Ciena's DWDM product transmits up to 1.6 Tb/s, more than a six-fold increase.[38]

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36. FCC, MCI WorldCom Order, FCC 98-225, September 14, 1998, ¶64.
37. Ciena Press Release, "Sprint Increases Network Capacity, Performance with Deployment of Ciena's Scaleable 40-Channel Multiwave 4000," March 16, 1998.
38. Ciena CoreStream Dense Wavelength Division Multiplexing System, http://www.ciena.com/products/transport/longhaul/corestream/index.asp.

40. In discussing the increase in the capacity of new telecommunications equipment, the FCC concluded in its 1998 MCI WorldCom order that "[a]s a result, existing carriers can expand capacity to constrain a unilateral exercise of market power by any other carrier, and new carriers likely will be able to constrain any coordinated exercise of market power by the incumbents."[39]

5. Long term industry trends toward increased competition are expected to continue

41. While the long distance industry continues to respond to the entry of BOCs and the growth of intermodal competition from wireless services and e-mail, additional changes – such as Voice over Internet Protocol (VoIP) and bundling of local and long distance services -- are starting to bring yet more competition to the industry.

42. For example, new services using "Voice Over Internet Protocol" (VoIP) technology have been introduced. These services promise to deliver another alternative to the wireline long distance (and local) networks by using the Internet to carry voice messages. FCC Chairman Powell noted that "… 2002 saw the introduction of reliable Internet telephony services as companies such as Vonage are providing an alternative to analog wired telephony over a broadband connection."[40]

43. VoIP services are also expected to speed deployment of cable telephony, resulting in further intermodal competition for wireline long distance suppliers. Cox, Cablevision, Time Warner and Comcast have all begun trials of VoIP based telephone service.[41] Deutsche Bank highlights the VoIP's potential significance in promoting cable telephony:

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39. FCC, MCI WorldCom Order, ¶64.
40. Written Statement of Michael Powell before the Committee on Commerce, Science, and Transportation, United States Senate, January 14, 2003.
41. Morgan Stanley, "Industry Report, Wireline Telecom Services – Trend Tracker: Bottom Line Better," May 23, 2003, p. 16.

> We maintain our view that cable telephony, as well as a more broadly-defined "triple-play" bundle, represents the greatest longer-term threat to wireline operators. … Although the [cable] industry has waited on VoIP for a good part of the last decade, it appears highly likely that a competitive product could finally emerge sometime in late 2003 or early 2004. Thus, in 2005, the operating incentive could easily catch-up with technology, providing cable operators with both the opportunity and means to become a force in the telecom industry.[42]

44. As this example suggests, there is every indication that the dramatic and pro-competitive changes in industry conditions observed since the FCC declared AT&T to be a non-dominant carrier in 1995 are continuing. Morgan Stanley, for example, recently concluded that "[w]e expect the long distance industry to continue its free-fall as the twin forces of excessive competition and lack of demand continue indefinitely."[43]

IV. EXPIRATION OF STRUCTURAL SEPARATION RULES WOULD NOT ENABLE ILECS TO HARM COMPETITION BY MANIPULATING ACCESS TO THEIR LOCAL NETWORKS

45. As noted above, the FNPRM asks for comments on various theories which have been raised by ILECs' long distance rivals, who suggest that expiration of structural separation requirements would enable ILECs to harm competition by (i) engaging in non-price discrimination in providing local network access to rival long distance suppliers;[44] (ii) engaging in a "price squeeze" designed to drive their rival long distance carriers from the market; and (iii) shifting costs from their long distance subsidiaries to local business units.[45] We find that there is

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42. Deutsche Bank, "Wireline – Mid Year Review: Last Man Standing," May 27, 2003, p.27.
43. Morgan Stanley, "Wireline Telecom Services – Trend Tracker: Bottom Line Better," May 23, 2003, p. 7.
44. "We also seek comment on whether allowing BOCs and independent LECs to provide interexchange service on an integrated basis will diminish the ability of regulators and interexchange competitors to detect such discrimination." FNPRM, ¶31.
45. "We seek comment on the incentives and abilities of these carriers to misallocate their costs, discriminate, and engage in predatory price squeezes to such an extent that they may increase their market share and attain market power in the interstate and international interexchange markets. … We ask whether the carriers' incentives and abilities increase if they provide interstate and international interexchange services on an integrated basis." FNPRM, ¶29.

no basis for each of these concerns. Moreover, as discussed in Section V below, even if such concerns existed, dominant carrier regulations are ill-suited to address them.

A. EXPIRATION OF STRUCTURAL SEPARATION REQUIREMENTS WOULD NOT ENHANCE ILECS' INCENTIVE OR ABILITY TO ENGAGE IN NON-PRICE DISCRIMINATION AGAINST RIVALS IN PROVIDING NETWORK ACCESS

46. The incentive and ability for ILECs to engage in non-price discrimination in providing rival long distance carriers access to local telephone networks depends on the ability of long distance firms and regulators to detect such actions as well as the penalties that result if discrimination is detected. Expiration of the structural separation requirements, however, affects only how ILECs structure their internal operations, not their incentive or ability to engage in non-price discrimination.

47. In order for discrimination to succeed, it must be effective enough to cause customers to switch to ILEC long distance services from those provided by other firms but, at the same time, must avoid detection by regulators and sophisticated rivals, such as AT&T, Sprint and MCI. These firms operate nationally and thus have numerous benchmarks available to evaluate whether an individual ILEC is engaging in non-price discrimination.

48. There is no basis to conclude that elimination of structural separation rules would alter ILECs' incentive to engage in non-price discrimination. For example, elimination of structural separation rules does not reduce the penalties associated with discrimination, which include fines, the potential loss of the authority to provide long distance services, and exposure to antitrust penalties.

49. In addition, a variety of other regulatory safeguards against unreasonable non-price discrimination by ILECs against long distance rivals would remain in effect following expiration of structural separation requirements. These include:

- Equal access requirements (to the extent the Commission determines they remain necessary) and non-discrimination provisions of Section 251 of the Telecommunications Act;[46]
- Nondiscrimination requirements under Sections 201 and 202 of the Telecommunications Act.[47]
- Prohibitions on discrimination under various state statutes.[48]

50. Moreover, the reporting requirements imposed on BOCs to measure their provision of access services remain in effect after expiration of the separate subsidiary requirements. These include BOCs' obligations to disclose "network changes affecting competing service providers' performance or ability to provide telecommunications services, as well as changes that would affect the incumbent LEC's interoperability with other service providers."[49] ILECs also are subject to rigorous measurements that detail their performance in providing unbundled network elements, interconnection and related services.[50]

B. EXPIRATION OF STRUCTURAL SEPARATION REQUIREMENTS WOULD NOT ENHANCE ILECS' INCENTIVE OR ABILITY TO PURSUE A PREDATORY "PRICE SQUEEZE"

51. The FNPRM requests comment on whether expiration of structural separation requirements would increase ILECs' incentive or ability to harm competition by engaging in a predatory "price squeeze."

52. A predatory "price squeeze" is said to occur when an ILEC sets retail prices for long distance service that are sufficiently near (or even below) the prices it charges its long

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46. See FCC, Non-Accounting Safeguards Order, 11 FCC Rcd. 21905, December 24, 1996, ¶271.
47. Id., ¶211.
48. Id., footnote 509.
49. Id., ¶208.
50. See, for example, FCC, Qwest 271 Order for Minnesota, FCC 03-142, June 26, 2003, ¶10, Appendices B and C (performance measures).

distance rivals for access to its local network that equally efficient rivals will be driven from the market. This can be accomplished by an ILEC lowering its retail long distance prices, raising access prices charged to its long distance rivals, or both.

53. A price squeeze is a competitive concern if it is used to predate. In pursuing this strategy the ILEC sacrifices revenue with the goal of driving its rivals from the market and later recouping its investment in the form of higher retail prices. However, there is no basis for concern that expiration of the structural separation requirement will affect ILECs' incentive or ability to pursue a predatory "price squeeze."

54. The foremost reason is that it is widely recognized that predation is rarely a profitable strategy.[51] As noted above, firms that engage in predation incur some short-run losses in order to obtain longer-term gains. In order for predation to be successful, it is essential that attempts by the surviving firm to raise price (after driving its rivals from the market) do not result in entry. If entry occurs, firms will not be able to sustain the increase in price necessary to make predation a profitable strategy.

55. It is highly unlikely that a predatory strategy would succeed in the long distance industry. First, the industry includes several large, well-established rivals which include both wireline long distance carriers and wireless service providers. In addition, much industry investment consists of fixed assets, such as copper plant, fiber optic plant, switches and other equipment. These assets are likely to remain available to a new entrant, even if existing long distance companies are driven from the market. Thus, it would be difficult for a firm engaging

51. See, for example, D. Carlton and J. Perloff, Modern Industrial Organization, Third Edition, pp. 334-342, which concludes (p. 342): "Given all the theoretical difficulties with successful predatory pricing, it is not surprising that economists and lawyers have found few instances of successful price predation in which rivals are driven out of business and prices then rise."

in predation to prevent firms from entering the industry by purchasing these assets after the predator attempted to raise price in order to recoup its investment.[52]

56. The current bankruptcies in the telecommunication industry highlight this point. In particular, the assets of firms now in bankruptcy firms typically have not exited the industry. Instead, bankrupt telecommunications firms (such as MCI WorldCom) are expected to remain in the industry and to emerge as effective competitors (with greatly reduced debt). As Morgan Stanley summarizes:

> As the monthly operating results demonstrate, WorldCom is alive and competing. The company at the very least will re-emerge and try to give it a go. In an environment of limited demand and a possible shrinking pie in 2003, Sprint and AT&T have to contend with WorldCom's continuing seat at the table.[53]

57. Even if an ILEC could eliminate competition through predatory pricing, it is unlikely that the ILEC would be able to recoup its losses because it would likely face re-regulation as the result of its new monopoly status. In addition, it could face large penalties under antitrust laws. Thus, it is highly unlikely that ILECs could ever recoup investments in predation and thus it is highly unlikely that any such strategy would be pursued.

58. In any event, there is no basis to conclude that elimination of structural separation requirements has any impact on the ability of the Commission or ILECs' long distance rivals to scrutinize ILEC pricing and detect predation.

C. EXPIRATION OF STRUCTURAL SEPARATION REQUIREMENTS WOULD NOT ENHANCE ILECS' INCENTIVE OR ABILITY TO ENGAGE IN COST SHIFTING

59. The FCC has also expressed concern about an ILECs' ability to shift costs from its long distance division to its local service subsidiary. The FCC discusses two potential

52. The FCC recognizes this point in LEC Non-Dominance Order, ¶107.
53. Morgan Stanley, Wireline Telecom Services – Trend Tracker: Bottom Line Better, May 23, 2003, p. 31.

concerns: (i) cost shifting may be used to facilitate a price squeeze; and (ii) cost shifting may be used to evade regulation and raise the price of regulated services.[54] This section shows that there is no basis for either concern.

1. Expiration of structural separation requirements will not enable ILECs to engage in predatory conduct by improperly shifting costs

60. For the purposes of determining whether an ILEC is to be classified as a "dominant" long distance carrier, the FCC has previously recognized that the only relevant issue is whether cost shifting can be used to facilitate predation and drive rival long distance carriers from the market.

> For purposes of determining whether the BOC interLATA affiliates should be classified as dominant, however, we must consider only whether the BOCs could improperly allocate costs to such an extent that it would give the BOC interLATA affiliates … the ability to raise prices by restricting their own output. We conclude that, in reality, such a situation could occur only if a BOC's improper allocation enabled a BOC interLATA affiliate to set retail interLATA prices at predatory levels (i.e., below the costs incurred to provide those services), drive out its interLATA competitors, and then raise and sustain retail interLATA prices significantly above competitive levels.[55]

61. There is no basis for concern that the expiration of structural separation requirements would enable ILECs to engage in predatory conduct by improperly shifting costs from long distance to local operations. This is because there is no logical connection between a firm's ability to shift costs and its incentive or ability to pursue a predatory strategy.

62. As discussed above, predation requires a firm to sacrifice profits (relative to the level that otherwise would prevail) during the period in which its rivals are driven from the

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54. The FCC summarizes this concern in its LEC Non-Dominance Order (¶103): "[I]mproper allocation of costs by a BOC is of concern because such action may allow a BOC to recover costs from subscribers to its regulated services that were incurred by its interLATA affiliate in providing competitive interLATA services. In addition to the direct harm to regulated ratepayers, this practice can distort price signals in those markets and may, under certain circumstances, give the affiliate an unfair advantage over its competitors."
55. FCC, LEC Non-Dominance Order, ¶103.

market. In the unlikely event that such a strategy was profitable, the firm could finance its "investment" in a number of ways, including using earnings from a structurally separate subsidiary or even through borrowing in financial markets. A firm's ability to shift costs is not necessary to "fund" predatory conduct. Nonetheless, for reasons described above, it is very unlikely that any predatory strategy could succeed in the telecommunications industry, and thus it is unlikely that any would be attempted.

2. It is unlikely that expiration of separate subsidiary rules will enable ILECs' to evade regulation by shifting costs

63. It is unlikely that expiration of structural separation rules would give firms the incentive or ability to evade regulation by shifting significant costs from their long distance to local operations. As noted above, the FCC acknowledges that the evasion of regulation alone does not raise competitive concerns unless it is likely to give rise to predation -- which is highly unlikely in this industry. Furthermore, as discussed below, application of dominant carrier is inappropriate for addressing concerns that ILECs can evade regulations by shifting costs.

64. Nonetheless, it is important to note there is now little if any incentive for integrated carriers to avoid regulation by shifting costs because prices for regulated rates for local services, including exchange access and local exchange services, are largely set independently of the costs reported by ILECs. If shifting costs from long distance to local operations does not enable firms to generate higher revenue through higher prices of regulated services, there is no incentive to do so.

65. For example, interstate access charges today are governed by the CALLS order (Coalition for Affordable Local and Long Distance Service).[56] Under this order, a five-year

56. FCC, Order in the Matter of Access Charge Reform Price Cap Performance Review for Local Exchange Carriers Low-Volume Long Distance Users Federal-State Joint Board On Universal Service, CC Docket No. 96-262, CC Docket No. 94-1, CC Docket No. 99-249, CC Docket No. 96-45, May 31, 2000.

schedule of access rates was established that lowered traffic-specific rates to $.0055 per minute with further adjustments over time based on productivity trends.

66. Furthermore, prices for local exchange services and intrastate access services are subject to price cap formulas or other forms of incentive regulation and thus are not directly affected by changes in reported costs. For example, a number of states simply apply the CALLS rate for interstate access charges in setting intrastate access charges. While price cap and incentive regulation formulas differ from state to state, such regulations lessen or eliminate the relationship between an ILEC's reported costs and the prices it can charge for regulated services. According to a June 20, 2003 Communications Daily white paper, nearly all states use price caps, revenue caps or related forms of incentive regulation.[57] Only six states, which account for roughly five percent of the U.S. population, continue to regulate BOCs using rate of return regulation (although additional states continue to use rate of return regulation to regulate some independent ILECs). Even in states where rate of return regulation is still used, however, regulators can look to areas where price caps are used as benchmarks in establishing regulated rates, as well as other regulatory safeguards.

D. ELIMINATION OF SEPARATE SUBSIDIARY REQUIREMENTS FOR OTHER ILEC BUSINESSES HAS NOT RESULTED IN HARM TO COMPETITION

67. Available evidence indicates that removal (or absence) of structural separation requirements for various ancillary ILEC businesses has not adversely affected competition. These experiences provide no basis for concern that expiration of structural separation requirements relating to ILECs' long distance will harm consumers.

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57. "Retail Rate Regulation of Local Exchange Providers in the U.S.," Special White Paper Supplement to Communications Daily, June 20, 2003.

68. In the past, the FCC required that ILECs provide a variety of ancillary services, including customer premises equipment (CPE) and enhanced services, through separate subsidiaries. The FCC's concerns motivating these restrictions were similar to those discussed in the FNPRM with respect to ILEC provision of long distance services. In the Computer III order in 1986, the FCC summarized concerns that motivated the structural separation requirements:

> We were particularly concerned that major carriers could use their control over basic services to discriminate against others' competitive services and products. We were also concerned that these carriers could misallocate costs from unregulated to regulated activities, allowing them to impose unfair burdens on regulated ratepayers and improperly cross-subsidize their competitive offerings.[58]

69. The FCC later removed these structural separation requirements relating to CPE and enhanced services after concluding that the costs of such restrictions outweighed their benefits, concluding that nonstructural safeguards were sufficient to address their concerns.

> We conclude that in light of the high costs of mandatory structural separation the public interest would be better served by providing the BOCs with more flexibility in organizing their CPE and network services operations, while relying on effective, alternative methods to prevent improper cross-subsidization and discrimination.[59]

70. At the time that structural separation requirements were eliminated in 1987, rate of return regulation was prevalent and there were much stronger incentives than today for ILECs to engage in cost shifting. Nonetheless, we are aware of no evidence (or even claims) of competitive harm from the elimination of the structural separation requirements relating to CPE and enhanced services more than 15 years ago.

71. In addition, the FCC previously allowed separate subsidiary requirements relating to ILEC provision of interLATA information services to expire[60] and has permitted ILECs to

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58. FCC, Computer III Order, 104 FCC 2d 958, June 16, 1986, ¶12.
59. BOC Structural Relief Order, 2 FCC Rcd. 143, January 12, 1987, ¶2.
60. FCC, Order in the Matter of Request for Extension of the Sunset Date of the Structural, Non-Discrimination and other Behavioral Safeguards Governing Bell Operating Company Provision of In-Region, InterLATA Information Services, FCC 00-40, February 8, 2000.

provide intraLATA toll services on an integrated basis with local services. The non-price discrimination, price squeeze and cost shifting concerns raised by the FCC in the FNPRM regarding long distance services would seem to equally apply to these services. We are unaware of any evidence that expiration of these rules has adversely affected competition in the provision of these services.

V. IMPOSITION OF DOMINANT CARRIER REGULATION WOULD NOT ADDRESS THE FCC'S STATED CONCERNS AND WOULD HARM CONSUMERS

72. The FNPRM asks whether, and to what extent, dominant carrier regulation of interstate interexchange services is suited to achieving the Commission's objectives. In its notice, the FCC recognizes that dominant carrier regulation -- which could require ILECs to file tariffs and may subject ILEC long distance service to retail price cap regulation -- is not well suited to addressing the competitive concerns that have been raised:

> [t]he regulatory requirements on a carrier classified as dominant in a particular market generally are designed to prevent a carrier from raising prices by restricting its output rather than to prevent a carrier from raising its prices by raising its rivals' costs; therefore, application of these regulations to a carrier that does not have the ability to leverage its market power by restricting its own output could lead to incongruous results.[61]

73. The Commission's evaluation of the limitations of dominant carrier regulation in addressing its concerns is well founded. Given the current status of the long distance industry and existing safeguards, the imposition of dominant carrier regulation would not only be inappropriate, but would impose unwarranted costs and distortions on the industry.

A. THE FCC'S COMPETITIVE CONCERNS ARE NOT ADDRESSED BY DOMINANT CARRIER REGULATION

74. As discussed earlier, the FCC has expressed concerns about the extent to which sunset of structural separation rules would enable ILECs to engage in non-price discrimination or

61. FNPRM ¶38.

predation against their long distance rivals. While we conclude above that there is no basis for these concerns, even if there were, dominant firm regulation would not address them.

75. First, tariffs and price caps would not address concerns about non-price discrimination by ILECs against their long distance rivals. As discussed above, the incentive and ability of ILECs to engage in non-price discrimination depends critically on the ability of customers, rivals and regulators to detect it. As noted earlier, successful discrimination requires that these actions be noticeable to consumers (in order to induce them to switch to ILEC-supplied services) but must escape notice by competitors and regulators.

76. However, neither tariffs nor price caps affect the ability of consumers, rivals or regulators to detect non-price discrimination.[62] Even if an ILEC could engage in non-price discrimination against a competitor, regulation of the ILEC's long distance prices would not affect its ability to do so. As discussed earlier, regulators and long distance providers now have many years of experience in monitoring ILEC obligations with equal access and other non-discrimination requirements and the national scope of the major long distance companies leaves them numerous benchmarks for evaluating the performance of a given ILEC in providing interconnection with their local networks.

77. Second, price caps and tariffs would not address predation concerns. As discussed earlier, successful predation requires that a firm accept short-term losses while driving its rivals from the market. However, dominant carrier regulations would not prevent this conduct. As noted above, the FCC recognizes that tariff requirements and/or price cap regulations are typically intended to prevent companies from setting prices that are considered too high, not to prevent firms from lowering prices. If tariffs or price caps were to deter firms

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62. Instead, tariffs or price cap regulation, at best, may deter a BOC from raising price if discrimination was successful. (LEC Non-Dominance Order ¶87)

from reducing prices (and we are not aware of any suggestion in the FNPRM that this is the FCC's goal), there would be obvious anticompetitive consequences of discouraging legitimate price competition.

78. While the FCC has suggested in the past that tariffs supported by detailed cost data may help identify predation,[63] such behavior should be readily identifiable in the absence of tariffs. For example, the execution of a price squeeze requires that ILECs charge retail prices at a sufficiently low level that an equally efficient rival will be driven from the market. It is likely that any such attempt could be readily detected by ILECs' rivals and regulators, especially given access charge reforms in recent years that have greatly lowered usage sensitive access charges (while raising fixed charges).[64] Given what we understand to be the relatively low marginal (or variable) costs facing long distance suppliers, execution of a price squeeze would require that the ILEC set a very low retail price, which should be readily identifiable.

B. INAPPROPRIATE APPLICATION OF DOMINANT CARRIER REGULATION CAN ADVERSELY AFFECT COMPETITION

79. The FCC has correctly acknowledged in prior proceedings that there are significant costs associated with establishing tariffs and other regulations and that inappropriate application of dominant carrier regulation may adversely affect competition.

> [T]he fact that these measures might help to deter a BOC or its interLATA affiliate from engaging in certain types of anticompetitive conduct is not, by itself, a sufficient basis for imposing dominant carrier regulations on the BOC interLATA affiliates. We should also consider whether and to what extent these regulations would dampen competition…[65]

63. Id., ¶87.
64. FCC, CALLS Order, FCC 00-193, May 31, 2000 ¶¶29-30; FCC, Trends in Telephone Service, May 2002, Table 1.2.
65. LEC Non-Dominance Order, ¶ 87.

80. The FCC has previously found that tariffing requirements can harm competition by facilitating tacit collusion through the exchange of pricing information.[66] The FCC also recognizes that tariffs encourage ILECs' rivals to challenge ILECs' rates "in order to impede [BOCs'] ability to compete.[67]

81. The FCC has found, correctly in our view, that these regulations can deter competition in a variety of additional ways, including (i) discouraging the introduction of innovative new service offerings; (ii) reducing the ability of firms to engage in price competition, including offering secret discounts; (iii) liming the ability of firms to rapidly respond to changes in market conditions; and (iv) deterring firms from developing customer-specific service offerings. [68]

VI. CONCLUSION

82. Permitting BOCs and independent ILECs to integrate their long-distance and local exchange operations will not adversely affect competition. As a result, there is no economic basis for imposing dominant firm regulation on BOCs or independent ILECs.

83. Competition in the provision of long distance service has increased dramatically since 1995 when the FCC determined that AT&T should not be subject to dominant carrier regulation.

- BOCs' in-region share of wireline long distance service is expected to remain well below AT&T's 1995 share and, on a national basis, each BOC is expected to account for less than 10 percent of wireline services.

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66. Id., ¶89.
67. Id.
68. Policy and Rules Concerning the Interstate, Interexchange Marketplace, 11 FCC Rcd. 20, 730 at ¶¶23, 53.

- Competition from wireless services, e-mail and instant messaging – as well as massive increases in industry capacity -- has resulted in large declines in wireline long distance usage and declining prices.

84. In addition, ILECs would not be able to harm competition in the provision of long distance service by manipulating access to their local networks in the absence of structural separation regulations.

- Elimination of structural separation rules does not alter the ability of customers, rival long distance providers or regulators to detect discrimination and thus does not affect BOCs' incentive or ability to engage in non-price discrimination.
- There is no basis to conclude that elimination of structural separation rules would enable ILECs to engage in a predatory price squeeze. Predation is rarely a profitable strategy and its is especially unlikely in the telecommunications industry because entry (or re-regulation) would preclude recoupment.
- There is no basis to conclude that elimination of structural separation rules would enable firms to fund predation, or even evade regulation, by shifting costs.

85. Finally, dominant carrier rules do not address the competitive concerns raised by the Commission. These rules are designed largely to prevent anticompetitive price increases, but competitive concerns relating to manipulation of access focus primarily on predatory price reductions and non-price discrimination.

I declare under penalty of perjury that the foregoing is true and correct to the best of our knowledge and belief.

Dennis W. Carlton

Hal Sider

Allan Shampine

June 30, 2003

APPENDIX 1. CURRICULUM VITAE

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EDUCATION

Ph.D., MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, Massachusetts: Economics, 1975.

M.S., MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, Massachusetts: Operations Research, 1974.

A.B., HARVARD UNIVERSITY (Summa cum laude): Applied Math and Economics, 1972.

EMPLOYMENT

LEXECON INC., Chicago, Illinois (1977 - present): President, 1997 - 2001.

UNIVERSITY OF CHICAGO, Graduate School of Business (1984 - present): Professor of Economics.

UNIVERSITY OF CHICAGO, Law School (1980 - 1984): Professor of Economics.

UNIVERSITY OF CHICAGO, Department of Economics: Assistant Professor (1976 - 1979): Associate Professor (1979 - 1980).

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, Massachusetts, Department of Economics (1975 - 1976): Instructor in Economics.

OTHER PROFESSIONAL EXPERIENCE

HARVARD UNIVERSITY, Public Policy Summer Course in Economics (1977): Professor.

BELL TELEPHONE LABORATORIES (Summers 1976, 1977).

JOINT CENTER FOR URBAN STUDIES OF M.I.T. AND HARVARD UNIVERSITY, Cambridge, Massachusetts (1974 - 1975).

CHARLES RIVER ASSOCIATES, Cambridge, Massachusetts (Summers 1971, 1972): Research Assistant.

FIELDS OF SPECIALIZATION

Theoretical and Applied Microeconomics
Industrial Organization

ACADEMIC HONORS AND FELLOWSHIPS

M.I.T., National Scholar Award, 1968
Edwards Whitacker Award, 1969
Detur Book Prize, 1969
John Harvard Award, 1970
Phi Beta Kappa, 1971
National Science Foundation Fellowship, 1972 - 1975
Recipient of Post-doctoral Grant from the Lincoln Foundation, 1975
National Science Foundation Grant, 1977 - 1985
Recipient of the 1977 P.W.S. Andrews Memorial Prize Essay, best essay in the field of Industrial Organization by a scholar under the age of thirty
Ph.D. Thesis chosen to appear in the Garland Series of Outstanding Dissertations in Economics
Alexander Brody Distinguished Lecture, Yeshiva University, 2000

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Co-editor, Journal of Law and Economics, 1980 - present
Associate Editor, Regional Science and Urban Economics, 1987 - 1997
Associate Editor, The International Journal of Industrial Organization, 1991 - 1995
Member, American Economics Association, Econometrics Society
National Bureau of Economic Research, Research Associate
Member, Advisory Committee to the Bureau of the Census, 1987 - 1990
Editorial Board, Intellectual Property Fraud Reporter, 1990 - 1995
Consultant on Merger Guidelines to the U.S. Department of Justice, 1991 - 1992
Accreditation Committee, Graduate School of Business, Stanford University, 1995
Visiting Committee, MIT, Department of Economics, 1995 - present
Resident Scholar, Board of Governors of the Federal Reserve System, Summer, 1995
Member, Advisory Board, Economics Research Network, 1996 - present
Member, Steering Committee, Social Science Research Council, Program in Applied Economics, 1997 - 1999
Participant in meetings with Committee of the Federal Reserve on Payment Systems, June 5, 1997
Participant in roundtable discussions on "The Role of Classical Market Power in Joint Venture Analysis," before the Federal Trade Commission, November 19, 1997 and March 17, 1998.
Member, Advisory Board of Antitrust and Regulation Abstracts, Social Science Research Network, 1998 - present
Participant in the Round Table on the Economics of Mergers Between Large ILECS before the Federal Communications Commission, February 5, 1999.
Advisory Board, Massachusetts Institute of Technology, Department of Economics, 1999 - present
Chairman, FTC Round Table on Empirical Industrial Organization (September 11, 2001)
Professor, George Mason Institute for Judges, October 2001

BOOKS

"Market Behavior Under Uncertainty," Ph.D. Thesis, Massachusetts Institute of Technology (September 1975); Garland Publishing (1984).

Modern Industrial Organization, Scott, Foresman & Co., co-authored with Jeffrey Perloff, first edition (1990), second edition (1994), translated into Chinese, French, Hungarian and Italian; Addison Wesley Longman, third edition (2000).

RESEARCH PAPERS

"The Equilibrium Analysis of Alternative Housing Allowance Payments," (with Joseph Ferreira) Chapter 6 of Analysis of a Direct Housing Allowance Program, The Joint Center for Urban Studies of M.I.T. and Harvard University, (July 1975).

"Theories of Vertical Integration," presented at Fourth Annual Telecommunications Conference. Appears in a volume of Proceedings of the Fourth Annual Telecommunications Conference, Office of Telecommunications Policy, (April 1976).

"Uncertainty, Production Lags, and Pricing," American Economic Review, (February 1977).

"Selecting Subsidy Strategies for Housing Allowance Programs," (with Joseph Ferreira) Journal of Urban Economics, (July 1977).

"Peak Load Pricing With Stochastic Demand," American Economic Review, (December 1977). (Reprinted in Economic Regulation edited by P.L. Joskow, Edward Elgar Publishing Limited, 1998.)

"The Distribution of Permanent Income," Income Distribution and Economic Inequality, edited by Zvi Griliches, et al. (Halsted Press, 1978).

"Market Behavior with Demand Uncertainty and Price Inflexibility," American Economic Review, (September 1978).

"Why New Firms Locate Where They Do: An Econometric Model," in Studies in Regional Economics, edited by W. Wheaton, (Urban Institute, 1980).

"Vertical Integration--An Overview," in Congressional Record Hearings on the Communications Act of 1978. Bill H.R. 13105, (August 3, 1978).

"Vertical Integration in Competitive Markets Under Uncertainty," Journal of Industrial Economics, (March 1979). Awarded the P.W.S. Memorial Prize for the best essay in the field of Industrial Organization by a scholar under the age of thirty.

"Valuing Market Benefits and Costs in Related Output and Input Markets," American Economic Review, (September 1979).

“Contracts, Price Rigidity and Market Equilibrium,” Journal of Political Economy, (October 1979).

“Benefits and Costs of Airline Mergers: A Case Study,” (with W. Landes and R. Posner) Bell Journal of Economics, (Spring 1980). (Reprinted in “Air Transport” in Classics In Transport Analysis series, edited by Kenneth Button and Peter Nijkamp, 2001.)

“The Limitations of Pigouvian Taxes as a Long Run Remedy for Externalities,” (with G. Loury) Quarterly Journal of Economics, (November 1980).

“The Law and Economics of Rights in Valuable Information: A Comment,” Journal of Legal Studies, (December 1980).

“Price Discrimination: Vertical Integration and Divestiture in Natural Resources Markets,” (with J. Perloff) Resources and Energy, (March 1981).

“The Spatial Effects of a Tax on Housing and Land,” Regional Science and Urban Economics, (November 1981).

“Comments on Weicher,” Journal of Law and Economics, (December 1981).

Comment, in Sherwin Rosen ed. Studies in Labor Markets, University of Chicago Press, (1981).

“Planning and Market Structure,” in The Economics of Information and Uncertainty, edited by J.J. McCall, University of Chicago Press, (1982).

“The Disruptive Effect of Inflation on the Organization of Markets,” in Robert Hall, ed. The Economics of Inflation, University of Chicago Press, (1982).

“A Reexamination of Delivered Pricing,” Journal of Law and Economics, (April 1983).

“Futures Trading, Market Interrelationships, and Industry Structure,” American Journal of Agricultural Economics, (May 1983).

“The Location and Employment Choices of New Firms: An Econometric Model with Discrete and Continuous Endogenous Variables,” The Review of Economics and Statistics, (August 1983).

“The Need for Coordination Among Firms With Special Reference to Network Industries,” (with J. M. Klamer) University of Chicago Law Review, (Spring 1983).

“The Regulation of Insider Trading” (with D. Fischel), Stanford Law Review, (May 1983).

“Economic Goals and Remedies of the AT&T Modified Final Judgement” (with W. Lavey), Georgetown Law Review, (August 1983).

“Equilibrium Fluctuations When Price and Delivery Lags Clear the Market,” Bell Journal of Economics, (Autumn 1983).

"Futures Markets: Their Purpose, Their History, Their Growth, Their Successes and Failures," Journal of Futures Markets, (September 1984). (Reprinted in Futures Markets edited by A.G. Malliaris and W.F. Mullady, Edward Elgar Publishing Limited, 1995; and in Classic Futures: Lessons from the Past for the Electronics Age, edited by Lester Telser, Risk Books, 2000.)

"Energy and Location," Energy Costs, Urban Development, and Housing, Brookings Institution, (1984).

"The Limitation of Pigouvian Taxes As A Long Run Remedy for Externalities: Extension of Results," (with G. Loury) Quarterly Journal of Economics, (August 1986).

"The Rigidity of Prices," American Economic Review, (September 1986).

"The Theory and The Facts of How Markets Clear: Is Industrial Organization Valuable for Understanding Macroeconomics?" in Handbook of Industrial Organization, eds. Schmalensee and Willig, (1989).

"Market Power and Mergers in Durable Good Industries," (with R. Gertner), Journal of Law and Economics, (October 1989).

Comments on Vertical Integration and Market Foreclosure, Brookings Papers on Economic Activity, (December 19, 1989).

Book Review of Tirole's The Theory of Industrial Organization, Journal of Political Economy, (June 1990).

"The Genesis of Inflation and the Costs of Disinflation: Comment," Journal of Money, Credit & Banking, (August 1991, Part 2).

"The Theory of Allocation and its Implications for Marketing and Industrial Structure: Why Rationing is Efficient," Journal of Law and Economics, (October 1991).

"The Economics of Cooperation and Competition in Electronic Services Network Industries," in Economics of Electronic Service Networks, Wildman Steven ed., Praeger Press, (1992).

"Merger Policy and Market Definition Under the EC Merger Regulation," Conference on Antitrust in a Global Economy, Fordham Corporate Law Institute, (1994).

"The Antitrust Economics of Credit Card Networks," (with A. Frankel) Antitrust Law Journal, (Winter 1995).

"Economic Organization and Conflict," Journal of Institutional and Theoretical Economics, (March 1995).

"Antitrust and Higher Education: Was There a Conspiracy to Restrict Financial Aid?" (with G. Bamberger and R. Epstein) The Rand Journal of Economics, (Vol. 26, No. 1, Spring 1995, pp. 131-147).

"The Competitive Effects of Line-of-business Restrictions in Telecommunications," (with K. Arrow and H. Sider), Managerial and Decision Economics, (Vol. 16, pp. 301-321, 1995). (Reprinted in Deregulating Telecommunications - The Baby Bells Case for Competition, edited by Richard S. Higgins and Paul H. Rubin, John Wiley & Sons Ltd., 1995.)

"The Antitrust Economics of Credit Card Networks: Reply to Evans and Schmalensee," (with A. Frankel), Antitrust Law Journal, (Spring 1995).

"Antitrust and Payment Technologies," (with A. Frankel), Review, Federal Reserve Bank of St. Louis (November/December 1995).

"Antitrust Policy Toward Mergers When Firms Innovate: Should Antitrust Recognize the Doctrine of Innovation Markets?" Testimony before the Federal Trade Commission Hearings on Global and Innovation-based Competition (October, 1995).

"You Keep on Knocking But You Can't Come In: Evaluating Restrictions on Access to Input Joint Ventures," (with S. Salop), Harvard Journal of Law & Technology, (Volume 9, Summer, 1996). (Reprinted in e-Commerce Antitrust & Trade Practices, Practising Law Institute, 2001.)

"Comments on Causes and Consequences of Airline Fare Wars," Micro Brookings Papers on Economic Activity, (1996).

"A Critical Assessment of the Role of Imperfect Competition in Macroeconomics," in Market Behaviour and Macro Economic Modeling, Brakman, Van Ees, & Kuipers (eds.), MacMillan Press (1997).

"Price Rigidity," Business Cycles and Depressions, David Glasner ed., Garland Publishing, Inc., (1997).

"Communication Among Competitors: Game Theory and Antitrust," (with R. Gertner and A. Rosenfield), George Mason Law Review, (1997). (Reprinted in e-Commerce Antitrust & Trade Practices, Practising Law Institute, 2001.)

"Comments on Born and Viscusi," Brookings Papers on Economic Activity: Microeconomics, (1998).

"Antitrust and Higher Education: MIT Financial Aid (1993)" (September 1997) (with G. Bamberger), The Antitrust Revolution, (Oxford University Press), 3rd edition (1999).

"Market Power and Vertical Restraints in Retailing: An Analysis of FTC v. Toys 'R' Us," (with H. Sider), The Role of the Academic Economist in Litigation Support, edited by Daniel Slottje, North Holland, (1999).

"The Economics of Religion, Jewish Survival and Jewish Attitudes Toward Competition on Torah Education," (with A. Weiss), Journal of Legal Studies, (2001).

"A General Analysis of Exclusionary Conduct and Refusal to Deal -- Why Aspen and Kodak are Misguided," Antitrust Law Journal, (2001). (Reprinted in e-Commerce Antitrust & Trade Practices, Practising Law Institute, 2001.)

"The Lessons from Microsoft," Business Economics, (January 2001).

“Lessons from Halacha About Competition and Teaching” (with A. Weiss), Center for Business Ethics Social Responsibility, http://besr.org/library/competition.html, (March 2001).

“The Choice of Organizational Form in Gasoline Retailing and The Costs of Laws Limiting that Choice,” (with A. Blass), Journal of Law and Economics, (October 2001).

“Should The Merger Guidelines Be Scrapped? Introduction to a Debate,” in Symposium On The Antitrust Analysis Of Mergers: Merger Guidelines vs. Five Forces, 33 U. WEST L.A. L. REV. 2001.

“Contracts that Lessen Competition -- What is Section 27 for, and How Has it Been Used?” (with David Goddard), in Mark N. Berry and Lewis T. Evans eds., Competition Law at the Turn of the Century: A New Zealand Perspective, Victoria University Press (2003).

“Free Riding and Sales Strategies for the Internet,” (with J. Chevalier), The Journal of Industrial Economics, (December 2001).

“The Competitive Effects of Fannie Mae,” (with D. Gross and R. Stillman) Fannie Mae Papers, Volume I, Issue 1, January 2002.

“The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries,” (with M. Waldman), The Rand Journal (Vol. 33, No. 2, Summer 2002).

Interview, Economists’ Roundtable, Antitrust Magazine, Spring 2003.

“Airline Networks and Fares,” (with G. Bamberger), Handbook of Airline Economics, McGraw Hill (forthcoming).

“Intellectual Property, Antitrust and Strategic Behavior,” (with R. Gertner), Innovation Policy and the Economy, Volume 3, MIT Press (forthcoming).

“The Control of Externalities in Sports Leagues: An Analysis of Restrictions in the National Hockey League,” (with A. Frankel and E. Landes), Journal of Political Economy, (forthcoming).

“The Relevance for Antitrust Policy of Theoretical and Empirical Advances in Industrial Organization”, March, 2003, George Mason Law Review, (forthcoming).

“An Empirical Investigation of the Competitive Effects of Domestic Airline Alliances, “ (with G. Bamberger, and L. Neumann), Journal of Law and Economics, (forthcoming).

UNPUBLISHED PAPERS

“Modeling the Housing Allowance Program,” M.A. Thesis, Massachusetts Institute of Technology (September 1974).

“The Cost of Eliminating a Futures Market and The Effect of Inflation on Market Interrelationships,” (1984).

"The Empirical Importance of Delivery Lags as an Explanation of Demand," (1984).

"Statistical Supplement to The Antitrust Economics of Credit Card Networks: Reply to Evans and Schmalensee Comment, 63 Antitrust Law Journal 903 (1995)," (with Alan Frankel), (May 1997).

"Competition, Monopoly, and Aftermarkets," (with M. Waldman), Working Paper No. 8086, National Bureau of Economic Research, January 2001.

"An Empirical Assessment of Predation in the Airline Industry, " (with G. Bamberger).

EXPERT TESTIMONIAL EXPERIENCE

Testimony of Dennis W. Carlton in Re: "Vertical Integration--An Overview." Congressional Record Hearings on the Communications Act of 1978: Proceedings before the House on Bill H.R. 13105, August 3, 1978.

Testimony of Dennis W. Carlton, William M. Landes and Richard A. Posner in Re: Competitive Effects of the Proposed North Central-Southern Airline Merger: Proceedings before the Civil Aeronautics Board, Docket No. 33136, Exhibit NC/SO-T-7, October 13, 1978 and October 9, 1979.

Testimony of Dennis W. Carlton in Re: McNeilab, Inc.: Proceedings before the United States Department of Justice, Drug Enforcement Administration, Docket No. 78-13, March 13, 1980 and May 1980 (Oral).

Testimony of Dennis W. Carlton in Re: Acco Industries, Inc. v. Kresl Power Equipment, Inc.: In the U.S. Court of Appeals For the Seventh Circuit, Docket No. 80-2024, March 29, 1980.

Deposition, Testimony, and Rebuttal Testimony of Dennis W. Carlton in Re: Ethyl Corporation: Proceedings before the Federal Trade Commission, Docket No. 9128, November 10 & 11, 1980 (Deposition), November 13 & 14, 1980 (Testimony), and February 20, 1981 (Rebuttal).

Deposition of Dennis W. Carlton in Re: Independence Tube Corporation v. Copperweld Corporation, Regal Tube Company, The Yoder Company v. David F. Grohne (counter-defendant): In the U.S. District Court for the Northern District of Illinois, Eastern Division, No. 76 C 4201, January 24, 1981.

Affidavit of Dennis W. Carlton in Re: Ellis Banking Corporation, Ellis First National Bank of Bradenton, and Ellis First Security Bank v. Barnett Banks of Florida, Inc., Barnett Bank of Manatee County, and Westside National Bank of Manatee County: In the U.S. District Court for the Middle District of Florida, Tampa Division, No. 81-693-Civ-T-H, July 28, 1981.

Deposition and Economic Report of Dennis W. Carlton in Re: Schneider Industrial Sales and Service Company, William Schneider and Mary Emily Schneider v. Acco Industries, Inc.: In the U.S. District Court for the District of New Jersey, April 19, 1982.

Deposition and Testimony of Dennis W. Carlton in Re: City of Batavia, et al. v. Commonwealth Edison Company: Proceedings before the U.S. District Court, Northern District of Illinois, Eastern Division, No. 76 C 4388, May 17, 18 & 25, 1982 (Deposition), and July 22, 1982 (Testimony).

Deposition of Dennis W. Carlton in Re: M. K. Metals Inc., et al. v. National Steel Corporation: In the U.S. District Court for the Northern District of Illinois, Eastern Division, No. 79 C 1661, September 15, 1983.

Declaration and Deposition of Dennis W. Carlton in Re: Carter Hawley Hale Stores, Inc. v. The Limited, Inc., et al.: In the U.S. District Court, Central District California, No. CV 84 22000 AWT (JRX), April 21, 1984 (Declaration), and April 23, 1984 (Deposition).

Verified Statements and Testimony of Dennis W. Carlton in Re: Denver & Rio Grande Western Railroad v. Santa Fe Southern Pacific Corporation et al: Proceedings before the Interstate Commerce Commission, Docket No. 30400, August 28, 1984, November 14, 1984, and May 22, 1985, (Statements), and January 30, 1985, and June 19, 1985, (Testimony).

Affidavit of Dennis W. Carlton and William M. Landes in Re: United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company: In the United States District Court for the District of Columbia, December 19, 1984.

Statement of Carlton, DeMuth, Landes, and Rosenfield in Response to the National Telecommunications Information Administration (NTIA) Request for Comments in Connection with the Comprehensive Study of the Structure and Regulation of the U.S. Telecommunications Industry, March 29, 1985.

Deposition and Affidavit of Dennis W. Carlton in Re: L&W Industries, Inc. v. American Standard, Inc.: In the U.S. District Court, Eastern District of Wisconsin, Civil Action No. 81-C-1409, May 14, 1985 (Deposition) and August 30, 1985 (Affidavit).

Testimony of Dennis W. Carlton in Re: E. I. Du Pont De Nemours and Company's Thebaine Import Application: Proceedings before the U.S. Department of Justice, Drug Enforcement Administration, Docket No. 84-51, May 31, 1985.

Testimony of Dennis W. Carlton, William M. Landes and Sam Peltzman in Re: Joint Application of Pan American World Airways, Inc. and United Airlines, Inc., Pacific Division Transfer Case: Proceedings before the U.S. Department of Transportation, Docket No. 43065, August 7, 1985.

Deposition of Dennis W. Carlton in Re: General Motors "THM 200" Transmission Litigation: Proceedings before the U.S. District Court, Northern District of Illinois, Eastern Division, No. 79 C 1249, 80 C 2151 and 85 C 4805, July 2, 1986.

Affidavit of Dennis W. Carlton in Re: Norwest Bank Fire Case: Proceedings before the U.S. District Court, Fourth Judicial District, State of Minnesota, Court File No. 83-08122, August 28, 1986.

Affidavit of Dennis W. Carlton in Re: Policy and Rules Concerning Rates for Dominant Carriers: Before the Federal Communications Commission, Washington, D.C., Docket No. 87-313, October 16, 1987.

Deposition of Dennis W. Carlton in Re: Research Institute for Medicine and Chemistry, Inc. v. Wisconsin Alumni Research Foundation: In the U.S. District Court, Western District of Wisconsin, Case No. 85-C-1060-D, October 20 & 21, 1986.

Affidavit and Deposition of Dennis W. Carlton in Re: United States Football League, et al. v. National Football League, et al.: In the U.S. District Court, Southern District of New York, 84 Civ. 7484 (PKL), November 24, 1986 (Affidavit), February 26, 1986 and December 4, 1986 (Deposition).

Verified Statements of Dennis W. Carlton in Re: Coal Trading Corporation, et al. v. The Baltimore and Ohio Railroad Co., et al.: Before the Interstate Commerce Commission, ICC Docket No. 38301S, December 16, 1986 and September 8, 1987.

Testimony of Dennis W. Carlton in Re: The Application of Pacific Bell, a Corporation, for Authority to Increase Certain Intrastate Rates and Charges Applicable to Telephone Services Furnished within the State of California, California Public Utilities Commission, Application No. 85-01-034, December 19, 1986, and January 22 & 28, 1987.

Deposition of Dennis W. Carlton in Re: John H. Torphy v. Touche Ross & Co., et al: In the Circuit Court Dane County, State of Wisconsin, Case No. 82-CV-4033, August 25, 1987.

Deposition of Dennis W. Carlton in Re: Martin Exploration Management Company, et al. v. Panhandle Eastern Corporation, et al.: In the U.S. District Court for the District of Colorado, Civil Action No. 86-Z-804, May 5, 6 & 18, 1988.

Deposition of Dennis W. Carlton in Re: The Dow Chemical Company v. Halliburton Company and The Dow Chemical Company v. Mississippi Power & Light Company: In the U.S. District Court for the Northern District of Mississippi Greenville Division, No. GC-78-31-GD-D and No. GC-78-32-GD-D, June 16, 1988.

Statements and Testimony of Dennis W. Carlton in Re: Trailer Train Company et al., Approval of Pooling of Car Service With Respect to Flat Cars: Before the Interstate Commerce Commission, Finance Docket No. 27590. (Sub-No. 1), July 7 & 14, 1988 (Statements) and July 25 & 26, 1988 (Testimony).

Testimony of Dennis W. Carlton in Re: Pontarelli Limousine, Inc. v. City of Chicago, Finance Docket No. 83-C-6716, September 25 & 26, 1989.

Deposition of Dennis W. Carlton in Re: Great Northern Nekoosa Corporation v. Georgia-Pacific Corporation: Before the United States District Court District of Connecticut, Civ. Action No. B-89-607-WWE, December 28, 1989 and January 15, 1990.

Testimony of Dennis W. Carlton in Re: The Matter of the Physicians and Surgeons Medical Malpractice Insurance Rates of St. Paul Fire & Marine Insurance Company: Before the State of Minnesota Office of Administrative Hearings for the Commissioner of Commerce, O.A.H. Docket No. 0-1004-3412-2, January 1990.

Deposition of Dennis W. Carlton in Re: Dale A. Ervin, et al. v. Amoco Oil Company, et al.: In the District Court, City and County of Denver, State of Colorado, No. 88-CV-11994, September 5, 1990.

Reply Affidavit of Dennis W. Carlton and George J. Stigler in Re: United States of American v. Western Electric Company Inc. and American Telephone and Telegraph Company: In the United States District Court for the District of Columbia, Civil Action No. 82-0192, January 10, 1991.

Testimony of Dennis W. Carlton in Re: Westreco, Inc. v. Commissioner of Internal Revenue: In the United States Tax Court, Washington, D.C. 20217, Docket No. 24078-88, January 29, 1991.

Deposition, Testimony, and Rebuttal Testimony of Dennis W. Carlton in Re: In the Matter of Marathon Oil Company and Phillips Petroleum Company: Before the Department of Revenue, State of Alaska, Case No. 89314, April 23 & 24, 1991 (Deposition), March 28, 1991, June 19, 1991 (Testimony), July 22, 1991 (Rebuttal Testimony) and October 3 & 4, 1991 (Oral).

Deposition of Dennis W. Carlton in Re: Martin Exploration Management Company, et al. v. Panhandle Eastern Pipeline Corporation, et al.: In the U.S. District Court for the District of Colorado, Civil Action No. 91-N-110, February 5, 1992.

Deposition, Affidavit and Testimony of Dennis W. Carlton in Re: United States of America v. Brown University, et al.: In the U.S. District Court For the Eastern District of Pennsylvania, Civil Action No. 91-CV-3274, February 18 & 19, 1992 (Deposition), April 28, 1992 (Affidavit), and July 8 & 9, 1992 (Testimony).

Deposition of Dennis W. Carlton in Re: United States of America, People of The State of California, et al. v. J. B. Stringfellow, Jr., et al.: In the United States District Court Central District of California, No. CIV 83-2501 JMI, March 10 & 11, 1992.

Affidavit of Dennis W. Carlton in Re: SCFC ILC, Inc. d/b/a MountainWest Financial v. Visa U.S.A., Inc.: In the U.S. District Court for the District of Utah, Central Division, Civil No. 2:91-cv-047B, June 25, 1992.

Deposition and Testimony of Dennis W. Carlton in Re: Adcom, Incorporated, Cutrone Communications, Incorporated, Great Southern Communications Incorporated, Nola Communications Incorporated and Conrad Communications, Incorporated v. Nokia Corporation, Nokia-Mobira Oy, Nokia-Mobira, Incorporated, Nokia, Incorporated, Nokia Data Communications and Cue Paging Corporation: In the United States District Court for the Eastern District of Louisiana, Civil Action Number 90-4088, November 3 & 4, 1992 (Deposition), and February 9 & 10, 1993 (Testimony).

Statement, Supplemental Statement and Deposition of Dennis W. Carlton in Re: City of Dillingham, et al. v. Western Pioneer, Inc., et al., and City of Nome v. Western Pioneer, Inc., et al.: In the United States District Court for the District of Alaska, No. A89-014 Civil (Consolidated for Pre-Trial Proceedings with No. N89-004 Civil), November 6, 1992 (Statement and Supplemental Statement) and November 24, 1992 (Deposition).

Verified Statement of Dennis W. Carlton in Re: Kansas City Southern Industries, Inc., The Kansas City Southern Railway Company and K&M Newco, Inc. -- Control -- MidSouth Corporation, MidSouth Rail Corporation, MidLouisiana Rail Corporation, SouthRail Corporation and TennRail Corporation, Before the Interstate Commerce Commission, Finance Docket No. 32167, May 1993.

Verified Statements and Deposition of Dennis W. Carlton in Re: Union Pacific Corporation, Union Pacific Railroad Company and Missouri Pacific Railroad Company -- Control -- Chicago and North Western Holdings Corp. and Chicago and Northwestern Transportation Company: Before the Interstate Commerce Commission, Finance Docket No. 32133, May 24, 1993, June 21, 1993, and November 24, 1993 (Statements), and March 17, 1994, and July 26, 1994 (Deposition).

Verified Statement of Dennis W. Carlton in Re: Application of TTX Company and Certain Common Carriers by Railroad For Approval of Amendment of Pooling Agreement and Car Contract Extending Their Terms, Before the Interstate Commerce Commission, Finance Docket No. 27590 (Sub-No. 2), November 19, 1993.

Deposition of Dennis W. Carlton in Re: Merck & Co., Inc. v. Alcon Laboratories, Inc., In the United States District Court for the District of Delaware, No. C.A. 92-691, December 14, 1993.

Deposition and Affidavit of Dennis W. Carlton in Re: Northwest Airlines, Inc. v. American Airlines, Inc., Before the United States District Court, District of Minnesota, Fourth Division, C.V. No. 4-91-539, February 22 & 23, 1994, May 16 & 17, 1995, and July 8, 1997 (Deposition); and February 20, 1995 and May 9, 1996 (Affidavit).

Testimony of Dennis W. Carlton in Re: Florida Power & Light Company: Before the Federal Energy Regulatory Commission, Docket Nos. ER93-465-000, ER93-507-000, ER-93-922-000, and EL94-12-000, April 5, 1994, October 19, 1994, and June 22, 1995.

Testimony of Dennis W. Carlton in Re: The Matter of Touchfax Information Systems Inc. and Landis & Gyr Communications: Before the American Arbitration Association, No. 13-T-133-00260-93, May 10, 1994.

Affidavit and Declaration of Kenneth J. Arrow and Dennis W. Carlton in Re: United States of America v. Western Electric Company, Inc., and American Telephone and Telegraph Company: Before the United States District Court for the District of Columbia, Civil Action No. 82-0192, February 28, 1994 (Affidavit), and May 30, 1995 (Declaration).

Affidavit and Testimony of Dennis W. Carlton and Alan S. Frankel in Re: Leonard R. Kahn v. Emerson Electric Co., a Missouri corporation; Hazeltine Corporation, a Delaware corporation; and Motorola, Inc., a Delaware corporation; John Doe corporations 1-x; and John Does 1-x, individually; Before the United States District Court, for the Eastern District of New York, 92 Civ. 3063 (ADS), October 20, 1994 (Affidavit), and May 22, 1995 (Testimony).

Deposition and Testimony of Dennis W. Carlton in Re: Federal Trade Commission v. B.A.T. Industries P.L.C., Brown and Williamson Tobacco Corporation; American Brands, Inc.; and American Tobacco Company, Before the United States District Court, Southern District of New York, C.V. No. 94 Civ. 7849, November 20, 1994 (Deposition), and December 14, 1994 (Testimony).

Affidavit, Supplemental Affidavit and Deposition of Dennis W. Carlton in Re: Weatherford Roofing Company v. Employers National Insurance Company and Employers Casualty Company et al: In the United States District Court for the District of Dallas County, Texas, 116th Judicial District, No. 91-05637, May 5, 1995 (Affidavit), May 9-10 & June 1, 1995 (Deposition), and October 20, 1995 (Supplemental Affidavit).

Affidavit of Dennis W. Carlton in Re: Airline Travel Agency Commission Antitrust Litigation: In the United States District Court for the District of Minnesota, No. 4-95-107, June 14, 1995.

Declaration of Dennis W. Carlton in Re: Donnelly Corporation v. Gentex Corporation: In the United States District Court for the Western District of Michigan, Southern Division, Case No. 1:93 CV 530, October 20, 1995.

Testimony of Dennis W. Carlton before the Federal Trade Commission Hearings on Global and Innovation-based Competition, October 25, 1995.

Report and Deposition of Dennis W. Carlton in Re: Brand Name Prescription Drugs Antitrust Litigation, In the United States District Court for the Northern District of Illinois, Eastern Division, MDL No. 997, November 20, 1995 (Report), December 18 & 19, 1995 (Deposition).

Expert Report and Deposition of Dennis W. Carlton in Re: Johnson Matthey v. General Motors (Antitrust Counterclaim), District Court for the Eastern District of Wisconsin, No. 93 C 0931, January 9, 1996 (Expert Report), February 14, 1996 (Deposition).

Brief of Evidence, Summary of Evidence, and Testimony of Dennis W. Carlton on Behalf of Defendants in Re: Shell (Petroleum Mining) Company Limited and Todd Petroleum Mining Company Limited v. Kapuni Gas Contracts Limited and Natural Gas Corporation of New Zealand Limited, In the High Court of New Zealand, Auckland Registry, Commercial List, CL 5/94, April 2, 1996 (Brief of Evidence), July 18, 1996 (Summary of Evidence), and July 18-19, 1996 (Testimony).

Expert Report, Deposition, and Testimony of Dennis W. Carlton in Re: The Matter of the Arbitration Between Sprint Communications Company L.P. and Network 2000 Communications Corporation, Arbitration Case Number 57 181 0013 94, July 15, 1996 (Expert Report with H. Sider), August 12, 1996 (Deposition), and September 27, 1996 (Testimony).

Testimony and Prepared Statement of Dennis W. Carlton on behalf of Sacramento Municipal Utility District in Re: Pacific Gas & Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company: Before the Federal Energy Regulatory Commission Technical Conference on Market Power & Transmission Pricing, Docket Nos. ER96-1663-000, EC96-19-000, EL96-48-000, September 12, 1996.

Declaration of Dennis W. Carlton in Re: United States of America v. International Business Machines: In the United States District Court for the Southern District of New York, Civil Action No. 72-344 (AGS), November 12, 1996.

Expert Report, Affidavit Rebuttal and Deposition of Dennis W. Carlton in Re: Bell Atlantic Corporation and DSC Communications Corporation v. AT&T Corporation and Lucent Technologies Inc., Civil Action No. 5-96CV45, December 4, 1996 (Expert Report with R.E. Olley and D.S. Sibley), January 10, 1997 (Affidavit Rebuttal with R.E. Olley and D.S. Sibley), and January 21, 1997 (Deposition).

Affidavit of Dennis W. Carlton in Re: Pacific Gas & Electric Company, San Diego Gas & Electric Company, and Southern California Edison Company: United States of America Before the Federal Energy Regulatory Commission, FERC Docket No. ER96-1663-000, January 16, 1997 (with G.E. Bamberger).

Affidavit of Dennis W. Carlton in Re: Advanta Corp., Advanta National Bank U.S.A., and Advanta National Bank v. Visa U.S.A., Inc. and Mastercard International, Inc.: In the United States District Court for the Eastern District of Pennsylvania, Civil Action No. 96-CV-7940, January 21, 1997.

Deposition, Testimony, and Surrebuttal Testimony of Dennis W. Carlton in Re: In the Matter of Toys "R" Us, Inc.: In the United States of America Before the Federal Trade Commission, File No. 9278, March 16, 1997 (Deposition), April 16 and 25, 1997 (Testimony), and June 3, 1997 (Surrebuttal Testimony).

Deposition of Dennis W. Carlton in Re: In the Matter of Theresa Aguilar, et al vs. Atlantic Richfield Corporation et al: In the Superior Court of the State of California In and For the County of San Diego, File No. 700810, September 30, 1997 (Deposition).

Report of Dennis W. Carlton in Re: Few Ready Mix Concrete Co., v. Transit Mix Concrete & Materials Co., et al: In the United States District Court for the Eastern District of Texas Lufkin Division, No. 9:96-CV-86, October 31, 1997 (with W. J. Lynk).

Verified Statement, Depositions, Verified Reply Statement, and Verified Rebuttal Statement of Dennis W. Carlton in Re: CF Industries, Inc. v. Koch Pipeline Company, L.P.: In the United States of America Before the Department of Transportation Surface Transportation Board, No. 41685, November 7, 1997 (Verified Statement), December 19, 1997 (Deposition), January 8, 1998 (Verified Reply Statement), February 3, 1998 (Deposition), and February 20, 1998 (Verified Rebuttal Statement).

Expert Witness Report, Deposition and Affidavits of Dennis W. Carlton in Re: Industrial Silicon Antitrust Litigation: In the United States District Court for the Western District of Pennsylvania, No. 95-2104, January 9, 1998 (Expert Witness Report), February 10-11, 1998 (Deposition), April 8, 1998 (Affidavit), and June 29, 1998 (Affidavit).

Declaration of Dennis W. Carlton in Re: Applications of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.: Before the Federal Communications Commission, CC Docket No. 97-211, January 25, 1998 (with H. Sider)

Expert Report and Deposition of Dennis W. Carlton in Re: Bepco, Inc., et al v. AlliedSignal Inc. and AlliedSignal Truck Brake System Co.: In the United States District Court for the Middle District of North Carolina, Winston-Salem Division, No. 6:96CV00274, February 3, 1998 (Expert Report) and March 3, 1998 (Deposition).

Affidavit of Dennis W. Carlton in Re: Petition of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc.: Before the New York State Public Service Commission, No. 97-C-1804, February 16, 1998 (with H. Sider).

Affidavit of Dennis W. Carlton in Re: Petition of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc.: Before the Florida Public Service Commission, No. 971375-TP, February 27, 1998 (with H. Sider).

Second Declaration of Dennis W. Carlton in Re: Applications of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.: Before the Federal Communications Commission, CC Docket No. 97-211, March 19, 1998 (with H. Sider).

Affidavit, Reports, Reply Affidavit, Reply Report, Prepared Statements and Testimony of Dennis W. Carlton in Re: The Merger of SBC Communications Inc. with Ameritech Corporation: Before the Federal Communications Commission, CC Docket No. 98-141, July 20, 1998 (Affidavit and Report), November 12, 1998 (Reply Affidavit and Reply Report), February 5, 1999 (Prepared Statements and Testimony as a Participant in the Round Table on the Economics of Mergers Between Large ILECS), April 13, 1999 (Report to the FCC on Supplemental Analysis of the Katz/Salop Hypothesis).

Report and Supplemental Report of Dennis W. Carlton in Re: Riverside Pipeline Company v. Panhandle Eastern Pipeline Company: In the U.S. District Court for the Western District of Missouri, No. 97-0642-CV-W-4, September 20, 1998 (Report with H. Sider) and January 7, 1999 (Supplemental Report).

Statement of Dennis W. Carlton in Re: Enforcement Policy Regarding Unfair Exclusionary Conduct in the Air Transportation Industry: Before the Department of Transportation, Office of the Secretary, Washington, D.C., Docket No. OST-98-3713, September 24, 1998 (with G. Bamberger).

Report and Deposition of Dennis W. Carlton in Re: The Procter & Gamble Company, et al. vs. Amway Corporation, et al: In the U.S. District Court for the Southern District of Texas, Houston Division, January 8, 1999 (Report) and February 9, 1999 (Deposition).

Responsive Direct Testimony and Prepared Answering Testimony of Dennis W. Carlton for Intervenor Oklahoma Gas and Electric Company in Re: Joint Application of American Electric Power Company, Inc., Public Service Company of Oklahoma and Central and South West Corporation Regarding Proposed Merger: Before the Corporation Commission of the State of Oklahoma, Cause No. PUD 980000444, March 29, 1999 (with G. Bamberger).

Report and Declaration of Dennis W. Carlton in Re: Telnet Communications, Inc., et al. v. WorldCom, Inc., et al.: In the United States District Court for the Southern District of Texas, Houston Division, No. H-98-2020, March 30, 1999 (Report) and April 28, 1999 (Declaration).

Prepared Answering Testimony and Exhibits of Dennis W. Carlton on Behalf of Oklahoma Gas and Electric Company in Re: American Electric Power Company, Inc. and Central and South West Corporation: United States of America Before the Federal Energy Regulatory Commission, FERC Docket Nos. ER98-40-000, ER98-2770-000, ER98-2786-000, April 27, 1999 (with G. Bamberger).

Expert Report , Deposition and Supplemental Report of Dennis W. Carlton in Re: United States of America vs. American Society of Composers, Authors and Publishers in the Matter of the Application of Turner Broadcasting Systems Inc. for the Determination of Reasonable License Fees: Before the United States District Court, Southern District of New York, Civ. 13-95 (WCC) (Referred to Magistrate Judge Dolinger), April 15, 1999 (Expert Report), July 28-29 and August 5, 1999 (Deposition), and December 16, 1999 (Supplemental Report).

Declaration, Deposition and Reply Declaration of Dennis W. Carlton in Re: Visa Check/MasterMoney Antitrust Litigation: Before the United States District Court, Eastern District of New York, No. CV 96-5238 (JB) RLM), April 15, 1999 (Declaration), May 25, 1999 and June 1, 1999 (Deposition), and August 1, 1999 (Reply Declaration).

Report and Deposition of Dennis W. Carlton in Re: Zeneca Limited, Zeneca Holdings Inc., and Zeneca Inc. v. Rhone-Poulenc Inc. and Rhone-Poulenc AG Company: In the United States District Court for the District of Delaware, No. 97-652-GMS, May 17, 1999 (Report) and June 16, 1999 (Deposition).

Affidavit and Reply Affidavit of Dennis W. Carlton in Re: Andersen Consulting Business Unit Member Firms v. Arthur Andersen Business Unit Member Firms and Andersen Worldwide Societe Cooperative: Before the International Court of Arbitration of the International Chamber of Commerce, No. 9797/CK, June 2, 1999 (Affidavit) and September 13, 1999 (Reply Affidavit).

Affidavit, Report, Rebuttal Report, Reply Report, Rebuttal Report and Testimony of Dennis W. Carlton in Re: The Commissioner of Competition and Superior Propane Inc. and ICG Propane Inc.: Before The Competition Tribunal, No. CT-98/2, August 17, 1999 (Affidavit and Report), September 14, 1999 (Rebuttal Report with G. Bamberger), September 19, 1999 (Reply Report with G. Bamberger), September 27, 1999 (Rebuttal Report to Professor Michael Ward with G. Bamberger), and December 13-14, 1999 (Testimony with G. Bamberger).

Declaration of Dennis W. Carlton in Re: Merger of Qwest Communications International Inc. and U S WEST, Inc.: Before the Federal Communications Commission, CC Docket No. 99-272, October 18, 1999 (with Hal Sider).

Prepared Direct Testimony, Deposition and Cross-Examination of Dr. Dennis W. Carlton on behalf of Sierra Pacific Power Company in Re: United States of America Before the Federal Energy Regulatory Commission: Docket Nos. ER99-28-001, ER99-28-003, EL99-38-002 and ER99-945-002, November 17, 1999 (Prepared Direct Testimony), January 10, 2000 (Deposition), and April 26 and May 1, 2000 (Cross-Examination).

Expert Report and Deposition of Dennis W. Carlton in Re: United States of America v. Northwest Airlines Corporation and Continental Airlines, Inc.: In the United States District Court for the Eastern District of Michigan, Southern Division, Civil Action No. 98-74611, January 27, 2000 (Expert Report) and June 7, 2000 (Deposition).

Declaration and Ex Parte Declaration of Dennis W. Carlton in Re: Joint Applications of MCI WorldCom, Inc., and Sprint Corporation for Consent to Transfer Control: Before the Federal Communications Commission, CC Docket No. 99-333, February 18, 2000 (Declaration with H. Sider), and May 10, 2000 (Ex Parte Declaration with H. Sider).

Testimony, Rebuttal Testimony and Cross-Examination of Dennis W. Carlton on behalf of Sacramento Municipal Utility District in Re: Application of Pacific Gas and Electric Company to Market Value Hydroelectric Generating Plants and Related Assets Pursuant to Public Utilities Code Sections 367(b) and 851: Before the Public Utilities Commission of the State of California, application No. 99-09-053, March 2, 2000 (Testimony), March 16, 2000 (Rebuttal Testimony) and May 9, 2000 (Cross-Examination).

Affidavit, Deposition and Reply Affidavit of Dennis W. Carlton in Re: Gregory F. Daniel, M.D., et al., v. American Board of Emergency Medicine, et al: In the United States District Court for the Western District of New York, Civil Action No. 90-CV-1086A, March 3, 2000 (Affidavit), April 17 and 18, 2000 (Deposition), and July 12, 2000 (Reply Affidavit).

Expert Report, Reply Expert Report, Deposition and Supplemental Report of Dennis W. Carlton in Re: CSX Transportation, Inc. V. Qwest Communications International, Inc.: In the United States District Court for the Middle District of Florida, Jacksonville Division, Civil Action No. 99-412-CIV-J-21C, July 19, 2000 (Expert Report), October 11, 2000 (Reply Expert Report), January 10-11, 2001 (Deposition), and July 18, 2001 (Supplemental Report).

Reply Declaration of Dennis W. Carlton in Re: Joint Application of Northpoint Communications and Verizon Communications for Authority to Transfer Control of Blanket Authorization to Provide Domestic Interstate Telecommunications Services as a Non-Dominant Carrier: Before the Federal Communications Commission, Washington DC, Docket No. 00-157, October 17, 2000 (with H. Sider).

Declaration and Reply Declaration of Dennis W. Carlton in Re: In the Matter of Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities: Before the Federal Communications Commission, Washington DC, Docket No. 00-195, December 1, 2000 (Declaration with K. Arrow and G. Becker), and January 10, 2001 (Reply Declaration with K. Arrow and G. Becker).

Report, Rebuttal Report and Deposition of Dennis W. Carlton in Re: Rambus Inc. v. Infineon Technologies AG, Infineon Technologies North America Corp., Infineon Technologies, Inc., Infineon Technologies Holding North America Corp., and Infineon Technologies Corp.: In the United States District Court for the Eastern District of Virginia, Richmond Division, Civil Action No. 3:00CV524, December 20, 2000 (Report), January 19, 2001 (Rebuttal Report), and February 6, 2001 (Deposition).

Reports, Rebuttal Reports, Deposition and Declaration of Dennis W. Carlton in Re: Micron Technology, Inc. v. Rambus Inc.: In the United States District Court for the District of Delaware, Civil Action No. 00-792, March 28, 2001 (Report), April 13, 2001 (Rebuttal Report), April 18, 2001 (Deposition), and August 17, 2001 (Report), September 17, 2001 (Rebuttal Report), and Declaration (October 1, 2001).

Expert Report, Deposition and Testimony of Dennis W. Carlton in Re: Amgen Inc. v. Ortho Pharmaceutical Corp.: Endispute Arbitration, Chicago, Illinois, August 31, 2001 (Expert Report), November 27-28, 2001 (Deposition), and May 9-10, 2002 (Testimony).

Testimony of Dennis W. Carlton in Re: Empirical Industrial Organization Roundtable: Before the Federal Trade Commission, Matter No. P015602 (September 11, 2001).

Expert Report of Dennis W. Carlton in Re: Artemio Del Serrone, et al. v. Philip Morris Companies, Inc., et al.: In the Circuit Court for the County of Wayne, State of Michigan, No. 00-004035 CZ, December 19, 2001.

Expert Report and Deposition of Dennis W. Carlton in Re: Cigarette Price-Fixing Litigation and related cases, Holiday Wholesale Grocery Company, et al. v. Philip Morris Incorporated, et al.: In the United States District Court for the Northern District of Georgia, Atlanta Division, No. 1:00-CV-0447-JOF, MDL No. 1342, December 19, 2001 (Expert Report) and January 23, 2002 (Deposition).

Expert Report and Deposition of Dennis W. Carlton in Re: Flat Glass Antitrust Litigation: In the United States District Court for the Western District of Pennsylvania, No. 97-550, MDL NO. 1200, December 20, 2001 (Expert Report) and February 4-6, 2002 (Deposition).

Expert Report, Supplemental Expert Report, and Deposition of Dennis W. Carlton in Re: Symbol Technologies et al v. Lemelson Medical et al and Cognex Corporation v. Lemelson Medical et al: In the United States District Court, District of Nevada, CV-S-01-701-PMP (RJJ) and CV-S-01-702-PMP (RJJ), December 14, 2001 (Expert Report), May 7, 2002 (Supplemental Expert Report), and October 3, 2002 (Deposition).

Declaration and Reply Declaration of Dennis W. Carlton in Re: Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services: Before the Federal Communications Commission, Washington DC, CC Docket No. 01-337, FCC 01-360, March 1, 2002 (with H. Sider), and April 22, 2002 (with H. Sider and G. Bamberger).

Declaration, Deposition, Reply Declaration, and Preliminary Injunction Hearing Testimony of Dennis W. Carlton in Re: Sun Microsystems Inc. v. Microsoft Corporation: In the United States District Court, Northern District of California, San Jose Division, Civil Action No. C 02-01150 RMW (PVT), March 8, 2002 (Declaration), June 27, 2002 (Deposition), August 9, 2002 (Reply Declaration), and December 4, 2002 (Preliminary Injunction Hearing Testimony - In the United States District Court for the District of Maryland, Northern Division, MDL No. 1332).

Declaration of Dennis W. Carlton in Re: In the Matter of Applications for Consent to the Transfer of Control of Licenses, Comcast Corporation and AT&T Corp., Transferors, to AT&T Comcast Corporation, Transferee: Before the Federal Communications Commission, Washington, D.C., MB Docket No. 02-70, April 26, 2002

Declaration of Dennis W. Carlton and Robert H. Gertner In Re Shirley Robinson, et al., v. Bell Atlantic Corporation d/b/a Verizon Communications, et al., United States District Court Eastern District of Kentucky, Lexington Division, Case No. 01-98. (08/30/02)

Expert Report and Deposition of Dennis W. Carlton in Re: Duramed Pharmaceuticals, Inc. v. Wyeth-Ayerst Laboratories, Inc.: In the United States District Court, Southern District of Ohio, Western Division at Cincinnati, Civil Action No. C-1-00-735, August 19, 2002 (Expert Report) and September 24, 2002 (Deposition).

Expert Report and Deposition of Dennis W. Carlton in Re: Philip Morris, Inc.: In the United States District Court for the District of Columbia, No. 99-CV-02496 (GK), May 10, 2002 (Expert Report) and September 10, 2002 (Deposition).

Affidavit of Dennis W. Carlton in Re: USG Corporation, a Delaware Corporation, et al, In the United States Bankruptcy Court for the District of Delaware, Case No. 01-2094 (RJN), August 20, 2002 (Affidavit).

Expert Report, Expert Rebuttal Report, and Discovery Deposition of Dennis W. Carlton in Re: Sarah Futch Hall, d/b/a Travel Specialist, et al., on behalf of themselves and all others similarly situated v. United Airlines, Inc., et al.: In the United States District Court for the Eastern District of North Carolina Southern Division, No. 7:00-CV-123-BR(1), October 4, 2002 (Expert Report), November 13, 2002 Expert Rebuttal Report, and November 21, 2002 (Discovery Deposition).

Initial Report of Dennis W. Carlton and Hal Sider in Re: Sunrise International Leasing Corp., v. Sun Microsystems Inc., In the United States District Court for the District of Minnesota, Civil Action No. 01-CV-1057 (JMR/FLN), March 27, 2003 (Initial Report).

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EDUCATION

Ph.D., UNIVERSITY OF WISCONSIN, Madison, Wisconsin: Economics, 1980.

M.A., UNIVERSITY OF WISCONSIN, Madison, Wisconsin: Economics, 1978.

B.A., UNIVERSITY OF ILLINOIS, Urbana, Illinois: Economics, 1976.

EMPLOYMENT

LEXECON INC., Chicago, Illinois (October 1985 - present): 1985-90: Economist; 1990-1999: Vice President; 1999-current: Senior Vice President.

U.S. COMMISSION ON CIVIL RIGHTS, Washington, D.C., (August 1984 - October 1985): Co-Director: Project on Minority Income Trends.

OFFICE OF POLICY: U.S. DEPARTMENT OF LABOR, Washington, D.C., (May 1982 - August 1984): Economist.

PRESIDENT'S TASK FORCE ON FOOD ASSISTANCE (on leave from U.S. Department of Labor), Washington, D.C., (September 1983 - February 1984): Research Associate.

OFFICE OF RESEARCH AND EVALUATION; BUREAU OF LABOR STATISTICS, Washington, D.C., (September 1980 - May 1982): Economist.

UNIVERSITY OF WISCONSIN, Madison, Wisconsin (1978 - 79): Teaching Assistant.

UNIVERSITY OF WISCONSIN, Madison, Wisconsin (1976 - 78): Science Writer.

FIELDS OF SPECIALIZATION

Applied Microeconomics
Econometrics
Industrial Organization
Telecommunications
Labor Economics

ARTICLES

"Have Mergers of Large Local Exchange Carriers Led to Discrimination Against Rivals? An Empirical Investigation" July 2002 (forthcoming, ABA publication on the use of econometrics in litigation, with Dennis Carlton and Thomas Stemwedel).

"Recent Developments in U.S. Antitrust Enforcement," The United States Antitrust Review, October 1999 (with Gustavo Bamberger).

"Market Power and Vertical Restraints in Retailing: An Analysis of FTC v. Toys 'R' Us," in The Role of the Academic Economist in Litigation Support, edited by Daniel Slottje (1999), with Dennis Carlton.

"The Competitive Effects of Line-of-Business Restrictions in Telecommunications," Managerial and Decision Economics (1995), with Kenneth Arrow and Dennis Carlton. (Reprinted in R. Higgins and P. Rubin, eds., Deregulating Telecommunications: The Baby Bells' Case for Deregulation, Wiley Series in Managerial Economics, 1995.)

"Applications of Economic Theory and Econometric Methods to Merger Review in the United States," (paper presented to European Commission Merger Task Force, 1992), with A. Rosenfield and W. Bishop.

"Unemployment Incidence and Duration: 1968-1982," American Economic Review (June 1985).

"The Pay Gap and Occupational Segregation: Implications for Comparable Worth," Proceedings of the Industrial Relations Research Association (1985), with June O'Neill.

"Work-Related Accidents and the Production Process," Journal of Human Resources (Winter 1985).

"Labor Force Participation and the Relative Earnings of Black and White Males: 1940-80," with Andy Sparks, (paper presented at the World Congress of the Econometric Society, 1985).

"Comment on McIntyre: Estimating Long-Term Labor Market Flows from CPS Data," Proceedings: Conference on Applications of Gross Flow Data, U.S. Bureau of the Census (1985).

"The Changing Makeup of the Military and the Effect on Labor Force Data," Monthly Labor Review (July 1984), with Cheryl Cole.

“Accuracy of Response in Labor Market Surveys: Evidence and Implications,” Journal of Labor Economics (October 1983), with Wesley Mellow.

“Safety and Productivity in Underground Coal Mining,” Review of Economics and Statistics (May 1983).

“Economic Incentives and Safety Regulation,” American Economist (Summer 1983).

“Consumers and Product Safety: Market Processes and Imperfections,” Policy Studies Journal (February 1983), with Eugene Smolensky.

REPORTS

The Economic Progress of Black Men in America, U.S. Commission on Civil Rights (1986).

Economic Status of Americans of Eastern and Southern European Ancestry, U.S. Commission on Civil Rights (1986).

Report of the President's Task Force on Food Assistance, Curran Press, Alexandria, Virginia (1984).

MISCELLANEOUS

University-Industry Dissertation Fellowship, University of Wisconsin, 1979-80.

Referee for:

Journal of Human Resources
Journal of Industrial Economics
Journal of Labor Economics
Journal of Law and Economics
Journal of Legal Studies
National Commission on Employment Policy
National Science Foundation
Policy Studies Journal
Review of Economics and Statistics
Social Science Research Council
U.S. Department of Health and Human Services
Antitrust Law Journal

TESTIMONIAL EXPERIENCE

Sunrise International Leasing Corporation v. Sun Microsystems, Inc., United States District Court for the District of Minnesota, No. 01-CV-1057 (JMR/FLN). Affidavit on behalf of Sun Microsystems, March 2003 (with Dennis Carlton), relating to damage issues.

Sunrise International Leasing Corporation v. Sun Microsystems, Inc., United States District Court for the District of Minnesota, No. 01-CV-1057 (JMR/FLN). Affidavit on behalf of Sun Microsystems, January 2003, relating to discovery issues.

Vitamin Antitrust Litigation, MDL No. 1285, Declaration on behalf of opt-out plaintiffs, November 2002 (with William Landes and Gustavo Bamberger), relating to niacin damage issues.

Mesler v. Prudential Insurance, et al., Circuit Court of Cook County, Illinois, No. 99 L 37, November 2002, on behalf of Prudential Insurance, et al. (Deposition testimony, January 30, 2003; March 6, 2003).

MHC Financing Limited Partnership v. City of San Rafael, United States District Court for The Northern District of California, Expert Report on behalf of MHC, September 13, 2002 (with Daniel R. Fischel); Supplemental Report, September 30, 2002.

Vitamin Antitrust Litigation, MDL No. 1285, United States District Court for the District of Columbia, deposition testimony, August 7-8, 2002, August 27, 2002, on behalf of opt-out plaintiffs.

Vitamin Antitrust Litigation, MDL No. 1285, United States District Court for the District of Columbia. Declaration on behalf of opt-out plaintiffs, August 2002 (with William M. Landes and Gustavo Bamberger), relating to present value adjustment.

Vitamin Antitrust Litigation, MDL No. 1285, United States District Court for the District of Columbia. Reply Expert Report on behalf of opt-out plaintiffs, July 2002 (with William M. Landes and Gustavo Bamberger), relating to damages.

Dean Foods, Kraft Foods, Ralston Purina Company, Nabisco, Inc. and McKee Foods v. Eastman Chemical, et al., United States District Court, Northern District of California, San Francisco Branch. Supplemental Declaration on behalf of Dean Foods, et al., June 2002.

Vitamin Antitrust Litigation, MDL No. 1285, United States District Court for the District of Columbia. Expert Report on behalf of opt-out plaintiffs, May 2002 (with William M. Landes and Gustavo Bamberger), relating to damages.

Dean Foods, Kraft Foods, Ralston Purina Company, Nabisco, Inc. and McKee Foods v. Eastman Chemical, et al., United States District Court, Northern District of California, San Francisco Branch. Reply Declaration on behalf of Dean Foods, et al., May 2002.

Joint Declaration to Federal Communications Commission, GN Docket No. 00-185, in the matter of Inquiry Concerning High-Speed Access to Internet Over Cable and Other Facilities (with K. Arrow, G. Becker, D. Carlton, R. Gertner, D. Fischel, J. Kalt, and G. Bamberger), May 2002, on behalf of Verizon.

Declaration of Hal Sider in Re: Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services: Before the Federal Communications Commission, Washington DC, CC Docket No. 01-337, FCC 01-360, March 1, 2002 (with Dennis Carlton), May 2002 (with Dennis Carlton and Gustavo Bamberger), on behalf of Verizon.

Dean Foods, Kraft Foods, Ralston Purina Company, Nabisco, Inc. and McKee Foods v. Eastman Chemical, et al., United States District Court, Northern District of California, San Francisco Branch. Declaration on behalf of Dean Foods, et al., February 2002.

White-Janes v. Chicago Board of Education, U.S. District Court for the Northern District of Illinois, Eastern Division, CA No. 00C-6128. Expert Report, March 2002; Supplemental Report, April 2002; Deposition testimony, May 2002; Supplemental Report, November 2002, on behalf of White-Janes.

Forest Laboratories, Inc. v. G.D. Searle and Co., U.S. District Court for the Northern District of Illinois, Eastern Division, CA No. 98C-5170. Expert Report on behalf of Forest Laboratories, April 2001 (with David Gross).

Reply Declaration Re: Joint Application of Northpoint Communications and Verizon Communications for Authority to Transfer Control of Blanket Authorization to Provide Domestic Interstate Telecommunications Services as a Non-Dominant Carrier: Before the Federal Communications Commission, Washington DC, Docket No. 00-157, October 17, 2000 (with Dennis Carlton), on behalf of Verizon and Northpoint.

Vitamin Antitrust Litigation, MDL No. 1285, United States District Court for the District of Columbia. Expert Report on behalf of opt-out plaintiffs, June 2000 (with William M. Landes), relating to discovery issues.

Ex Parte Declaration to Federal Communications Commission, CC Docket No. 99-333, in the matter of Joint Application of MCI WorldCom and Sprint for Consent to Transfer Control, May 2000, on behalf of SBC.

Gas City, Ltd. v. Indiana Department of Transportation, Circuit Court of St. Joseph County, Indiana. Affidavit on behalf of Gas City, March 2000.

Declaration before the Federal Communications Commission, CC Docket No. 99-333, in the matter of Joint Application of MCI WorldCom and Sprint for Consent to Transfer Control, February 2000 (with Dennis Carlton), on behalf of SBC.

Ex Parte Comments to Federal Communications Commission, CC Docket No. 99-272, in the matter of the Merger of Qwest Communication International Inc. and U S WEST, February 2000, on behalf of Qwest and U S WEST.

Lemon, Myer, Duncan et al. v. International Union of Operating Engineers, et al., U.S. District Court for the Eastern District of Wisconsin, Case No. 97-C-0857. Affidavit on behalf of International Union of Operating Engineers (December 1999): deposition (January 2000); Supplemental Report (February 2000).

Declaration before the Federal Communications Commission, CC Docket No. 99-272, in the matter of Merger of Qwest Communications International Inc. and U S WEST, Inc., October 18, 1999 (with Dennis Carlton), on behalf of Qwest and U S WEST.

Ex Parte Report to the Federal Communications Commission, CC Docket No. 98-141 regarding the Merger of SBC Communications Inc. with Ameritech Corporation, April 1999 (with Dennis Carlton) on behalf of SBC and Ameritech.

Riverside Pipeline Co., v. Panhandle Eastern Pipeline Co., United States District Court for the Western District of Missouri, Case No. 97-0642-CV-W-4, Expert Report in September 1998, on behalf of Panhandle Eastern Pipeline Co.

Lemon, Myer, Duncan et. al. v. International Union of Operating Engineers, et al., United States District Court for the Eastern District of Wisconsin, Case No. 97-C-0857; Affidavit in September 1998, on behalf of International Union of Operating Engineers.

Testimony before the Department of Public Service of the State of West Virginia in the Matter of Application of WorldCom, Inc., Corp., for Approval to Transfer Control of MCI Communication to WorldCom, Inc. (June 17, 1998); oral testimony (July 2, 1998), on behalf of WorldCom.

Testimony before the Department of Public Service Regulation, Public Service Commission of the State of Montana, Docket No. D97.10.191, in the Matter of the Application of WorldCom, Inc. and MCI Communications Corporation for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., May 12, 1998, on behalf of WorldCom.

Testimony before the Public Utilities Commission of the State of Colorado, Docket No. 97A-494T, in re Application of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., pre-filed direct testimony (March 25, 1998), cross-examination (April 2, 1998); on behalf of WorldCom.

Affidavit before the Florida Public Service Commission, Docket No. 971375-TP, Petition of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., February 27, 1998 (with Dennis Carlton); on behalf of WorldCom.

Affidavit before the New York State Public Service Commission, Case 97-C-1804, Petition of WorldCom, Inc. for Approval to Transfer Control of MCI Communications Corporation to WorldCom, Inc., February 16, 1998 (with Dennis Carlton); on behalf of WorldCom.

Second Declaration before the Federal Communication Commission, CC Docket No. 97-211, in the Matter of Application of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc., March 19, 1998 (with Dennis Carlton); on behalf of WorldCom and MCI.

Shuller v. United States, U.S. District Court for the Eastern District of Pennsylvania, Civil Action No. 97-3820, Expert report in February, 1998; on behalf of U.S. Department of Justice.

Declaration before the Federal Communication Commission, CC Docket No. 97-211, in the Matter of Applications of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications to WorldCom, Inc., January 25, 1998 (with Dennis Carlton); on behalf of WorldCom and MCI.

Smith v. Amtrak, Circuit Court of Cook County, IL, Case 92 L 10525. Deposition in November 1997, trial testimony in January 1998; on behalf of Smith.

Johnson and Lehl v. City Colleges of Chicago, U.S. District Court for the Northern District of Illinois Eastern Division Case No. 96 C 0862. Expert report in July 1997, deposition testimony in November 1997; on behalf of City Colleges of Chicago.

Gelumbauskas v. Precision Gear, U.S. District Court, Northern District of Illinois Eastern Division, Case No. 96 C 0862. Expert report in April 1997; on behalf of Gelumbauskas.

Galvan v. U.S. Industries, Expert Report on December 27, 1997, deposition testimony in January 1997; on behalf of U.S. Industries.

Sprint Communications Company L.P. v. Network 2000 Communications Corporation, Expert report on July 15, 1996, deposition testimony in July, August 1996; affidavit on November 9, 1996; on behalf of Sprint.

Beazer East v. CSX Transportation, Inc., U.S. District Court for the Western District of Pennsylvania Case No. 93 0861, Expert report in April 1996; deposition testimony in June 1996; on behalf of CSX.

Report submitted in May 1996 to the National Association of Insurance Commissions on behalf of National Association of Independent Insurers.

Carbon Dioxide Industry Litigation, U.S. District Court for Central District of Florida MDL940. Expert report in October 1994 (with William M. Landes); supplemental report (with William M. Landes and Richard Leftwich) in May 1995; deposition testimony in July 1995; on behalf of opt-out plaintiffs.

AVR, Inc. v. Cemstone Products Corp., U.S. District Court, District of Minnesota, Third Division, File CIV 3-92-551. Expert report in October 1994; supplemental affidavits in December 1994, January 1995; on behalf of Cemstone.

W. Borysiewicz v. M. Gilblair, Circuit Court of Cook County, Illinois. Deposition testimony in August 1994; trial testimony in September 1994; on behalf of Borysiewicz.

NAACP et. al. v. American Family Mutual Insurance Co., U.S. District Court, Eastern District of Wisconsin, Civil Action No. 90-C-0759. Deposition testimony in July 1994 and November 1994; on behalf of American Family.

G. Bowan v. The Sales Force Companies, U.S. District Court for The Western District of Missouri, Case No. 92-0496-CV-W-2. Affidavit in February 1993; on behalf of Sales Force.

Wisconsin Central Transportation Corporation -- Continuance in Control -- Fox Valley and Western Ltd., Finance Docket 32036. Verified Statement to the Interstate Commerce Commission in September 1992 (with Andrew M. Rosenfield); on behalf of the Wisconsin Central.

Castaneda v. Baron Wire and Steel Inc., Circuit Court of Cook County, Illinois, Municipal Department, Second District. Deposition testimony in February 1992; on behalf of Castaneda.

Morgan v. ServiceMaster, U.S. District Court for the Northern District of Illinois, Case No. 89-C-0581. Report in August 1991 (with Sherwin Rosen); on behalf of ServiceMaster.

Sepich v. Mueller, U.S. District Court for the Central District of Illinois, U.S. District Court, Case No. 88-2353. Report in March 1991 (with Sherwin Rosen); on behalf of Mueller.

N. Savakis v. Beatrice Company, U.S. District Court for the N.E. District of Illinois Eastern Division, No. 89 C5790. Deposition testimony in June 1990; on behalf of Beatrice.

Times Herald Printing Company v. A.H. Belo Corp. and Dallas Morning News Company, District Court of Harris County Texas, 280th Judicial District. Deposition testimony in April 1990; on behalf of Dallas Morning News.

Turner v. IDS Financial Services, Inc., U.S. District Court for the District of Minnesota, File No. 88-521. Report in November 1989; on behalf of IDS.

McLendon et al. v. Continental Group et. al, U.S. District Court for the District of New Jersey, Civil Action No. 83-1340 (SA). Trial testimony in February 1989, testimony before Special Master in February 1990; testimony before Special Master (with Sherwin Rosen) in August 1990; on behalf of Continental Group.

Application of Illini Carrier L.P. before Illinois Commerce Commission. Testimony in April 1988 regarding application to provide natural gas transportation services; on behalf of Illini Carrier.

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EDUCATION

Ph.D. UNIVERSITY OF CHICAGO: Economics, 1996
(Full scholarship from the University)

M.A. UNIVERSITY OF CHICAGO: Economics, 1993
(Full scholarship from the University)

B.S. SOUTHERN METHODIST UNIVERSITY: Economics and Systems Analysis, Mathematics Minor, 1991
(Summa Cum Laude, Honors, Departmental Distinction)

EMPLOYMENT

LEXECON, INC., Chicago, Illinois: Economist (1996 - present)

UNIVERSITY OF CHICAGO: Teaching Assistant (1994 – 1996)

DEGOLYER SPECIAL COLLECTIONS LIBRARY (May - July 1991)

BARNES & NOBLE (May - July 1989)

UNIVERSITY OF TEXAS, Research Assistant to Dr. Brian Berry (May - July 1987)

OTHER PROFESSIONAL EXPERIENCE

Member of the *American Economics Association*

Associate member of the *American Bar Association*

Referee for the *American Journal of Agricultural Economics* and *Journal of Business*.

Coordinated the *Conference on Valuing Non-Market Goods*, University of Chicago (July 21-22, 1995)

Assisted in coordinating the *Conference on Research in Health Economics*, University of Chicago (October 21-22, 1994)

Assisted in organizing the *Economic Policy and Public Finance Workshop*, University of Chicago (1993 - 1996)

Presented papers on information externalities and technology diffusion at the *Economics and Public Policy Workshop* (3) and *Price Theory Workshop* (1), University of Chicago (1995, 1996)

Presented *The Impact of Technology on the Modern Labor Market* at the 68th Annual Meeting of the Southwestern Social Science Association (March 29, 1990)

Independent research projects with Drs. Slottje and Hayes, Southern Methodist University (1987 - 1991)

ACADEMIC HONORS

Graduated Summa Cum Laude, Honors, Department Distinction
Phi Beta Kappa
Alpha Lambda Delta (Treasurer, honorary society recognizing academic achievement)
Phi Eta Sigma (honorary society recognizing academic achievement)
Omicron Delta Epsilon (international honor society in economics)
Kappa Mu Epsilon (honor society in mathematics)
Award for Excellence (given to the outstanding senior in the Economics Department as decided by the vote of the faculty)
Presidential Scholarship (full scholarship, Southern Methodist University)
National Merit Scholar (honorary)
Full Scholarship (University of Chicago)
Hyer Society (honorary society of Southern Methodist University)
Honor Roll (1987-1991)

AREAS OF SPECIALIZATION

Telecommunications
Technology Diffusion
Urban Economics
Agricultural Economics
Environmental Economics

PUBLICATIONS

BOOKS

Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies, (Editor) Nova Science Press (forthcoming 2003).

ARTICLES

"The Evolution of Telecommunications Switching in the Central Office," in Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies, Nova Science Press (forthcoming 2003).

Handicapping Countries in the Race to Digital Switching, Progress in Economics, edited by Frank Columbus (forthcoming 2003).

The Welfare Implications of Advertising and Extension Under Uncertainty (with George Tolley) Technological Forecasting & Social Change, 70 (2003).

Determinants of the Diffusion of U.S. Digital Telecommunications, Journal of Evolutionary Economics, 11 (2001).

Compensating for Information Externalities in Technology Diffusion Models, 80 American Journal of Agricultural Economics, 2 (1998).

Contributed to two catalogs at DeGolyer Special Collections Library (1991).

The Impact of Technology on the Modern Labor Market, 11 Southwestern Journal of Economic Abstracts, 1 (1990).

RESEARCH PAPERS

An Evaluation of Technology Diffusion Models and Their Implications*, Ph.D. Dissertation, University of Chicago (1996).*

A New Direction in Mixed Income Housing, submitted to Chicago Housing Authority (1993).

UNPUBLISHED PAPERS

A Survey of the Economics of Information, Focussing on Water (1992).

Petroleum Price Shocks and Rationality, B.S. Honors Paper (1991).

EXPERT TESTIMONY

Reply Declaration Re: 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, Before the Federal Communications Commission, Washington DC, WT Docket No. 01-14, May 14, 2001, Reply Declaration (with Robert Gertner).

Declaration Re: 2000 Biennial Regulatory Review Spectrum Aggregation Limits for Commercial Mobile Radio Services, Before the Federal Communications Commission, Washington DC, Docket No. 01-14, April 13, 2001, Declaration (with Robert Gertner).

Report to Directorate General IV of the European Commission: "Remedies in the United States," in *Remedies in the United States,* in *Remedies in EU Competition Law: The Policy and Practice of the European Commission, A Report for Directorate General IV of the European Commission*, July 1998, Report (with James Langenfeld).